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PRINCIPAL CONTENTS

ARTICLES

	PAGE
CORRESPONDENCE	85
OBITUARY	86
CHURCH ROOFING	87
CHURCH ROOFING MATERIALS: 1. Lead	97
A.A. SCHOOL: Annual Prize Giving	101
R.I.B.A.: Notes from Council Minutes	101
POPULATION OF THE CITY	102
THE HOUSING DRIVE	102
ART GALLERIES AND MUSEUMS	102
LEAD THIEVING	102
PEOPLE'S HOUSES AT EALING	102
CRICKET	102
THE FUTURE OF OLD HOUSES	103
SHELL CONCRETE CONSTRUCTION	104
CANADIAN INTERNATIONAL FAIR	104
ILLEGAL TRANSACTIONS IN STEEL	104
1951 CENSUS REPORT	105
IN PARLIAMENT	105
L.M.B.A.: Half Yearly Report	106
EFFECTS OF PLANNING ACT	107
CEMENT PROSPECTS	107
WEST MIDLANDS PLAN	107
BIRMINGHAM'S "OVERSPILL" POPULATION	107
CHURCH BELLS	107
A.U.B.T.W.	108
HOUSE COSTS	108
HOUSING DEVELOPMENT AT LAMBETH	108
BUILDING COSTS IN I.O.M.	108
POLITICS IN HOUSING	108
OPPOSITION TO NON-TRADITIONAL HOUSES	108
PERSONAL COLUMN	108
IRON AND STEEL MAKING IN U.S.	109
WAR DAMAGE COMMISSION: Cost of Works Claims	110
IRON AND STEEL	110
NEWS IN BRIEF	110
EUROPEAN TIMBER IN 1951	111
ASSISTANCE OFFERED TO SELF-HELP BUILDERS	111
TRADE NEWS	111
THE SCOTTISH BUILDER	112
OVERSEAS BUILDING	112

ILLUSTRATIONS

RESEARCH LABORATORIES FOR CEMENT INDUSTRY, GREENHITHE, KENT: By Westwood, Sons and Harrison	88
"PIPPINS"—A HOUSE AT BALCOMBE, SUSSEX: By L. Keir Hett	92

THIS WEEK'S NEWS

"CAN THE ARCHITECT continue to lead the building team in a field that is becoming increasingly occupied by structural engineering?" is a question asked by a correspondent. p. 85

LEAD is the subject of the first of the suggested codes of practice on church roofing materials drawn up by a committee of six architects with experience in the repair and maintenance of ancient buildings. p. 97

THE CITY CORPORATION is to institute an inquiry into the effect of the decrease in the resident population of the City. p. 102

FINES amounting to £1,205 in respect to illegal transactions in steel rods, were imposed at the Marylebone Court recently. p. 104

THE L.C.C.'s HOUSING SITE PROBLEM

AT the meeting of the London County Council, on July 1, the chairman of its housing committee informed the council that unless the L.C.C. could build in the New Towns or in the Expanding Towns in the Home Counties, it would cease to build at all in about three years and a half.

The alarming gravity of this statement becomes evident when one considers London's urgent housing needs: during the next five years the calculated overspill of persons to be rehoused, after all sites available for housing within the county and in the L.C.C. out-county estates are used up, is 76,000; during the following 15 years it is 235,000, and this is exclusive of the overspill from surrounding overcrowded boroughs, which although outside London County are physically part of built-up London. "Overspill" has an inhuman sound and is here used only for brevity. It is, of course, a consequence of the humane policy of decentralisation, now recognised by all as necessary in order that both those who remain in London and those who move out may have adequate and pleasant breathing space and elbow room.

Where can the Londoners who will move out be found homes, beyond the Green Belt—which must be kept free from any further inroads—but within easy reach of their places of employment? Some will be absorbed by the New Towns now being built, but since people and industry must move together, qualifications for a home in a New Town will not primarily depend upon housing need. Consequently, the movement to New Towns will only partially relieve the L.C.C. waiting lists. Nor will it solve the problem of those to be displaced by overdue slum clearance or improvements. Moreover, the vacated housing accommodation, other than in slum areas, of those moving out may, if privately owned, be filled by those not in serious housing need, or by immigrants from other parts of the country.

New Towns, however, are not the only agency in sight as a means of solving the major problem of more homes in the right places. The Town Development Bill, now before Parliament, should, when passed, expedite and facilitate the rehousing of Londoners in town extensions within 50 or 60 miles from London, and there the county council should find an outlet, if it can be achieved in time. The Greater London Plan suggests places in seven counties, within range of London, where expansions might take place. But two questions then present themselves, at this stage: What authority shall undertake the actual construction of these expansions, and can the towns concerned absorb such a large influx of Londoners?

Having regard to the paramount importance of speed, the answer to the first question would appear to be the London County Council itself. The council has built up a machine which, for the last few years, has been accustomed to turning out some nine or ten thousand dwellings a year, and its planners and architects are accustomed to plan and construct on the scale of neighbourhoods. It would, therefore, be foolish to contemplate disbanding this machine in three and a half years' time simply because, by then, the sites at present available will have been used up. Consequently, common sense suggests that the development machine of the L.C.C. should be used for the expansions desired by towns in the Home Counties.

As regards the second question—the satisfactory absorption of such an influx of Londoners by a small town—this must be answered not by one method but by many. Probably those New Towns which were based on old towns, such as Hemel Hempstead, Stevenage, Crawley and Bracknell, can provide useful hints on what to avoid. The selection of the tenants is of the utmost importance, even if employment requirements restrict it to some extent. Selection according to housing need will probably provide a better cross-section than if Londoners were imported wholesale, say from a slum clearance area. The selected should be made aware of the responsibilities of their ambassadorial status. The countryman still remembers some of the evacuees. Layout and architectural design can do much—the L.C.C. has not yet overcome the proper prejudice which developed against the arrangement and appearance of its immediate post-war out-county estates. Best of all, some mixture of local inhabitants among those imported would leaven a solid mass of Cockneys. Also, a few houses built by someone quite different—say a speculative builder, if he could be induced to

participate in the experiment, or some transfer licensees—would introduce a refreshingly individual note.

But the element most needed is speed. Arrangements for the expansion of towns have begun late, as far as London is concerned. Consequently there is need to hurry. Unless this is appreciated, the implementation of the Development Plan for London will be frustrated, and the people of London will be condemned to slums, high densities, long, tiring and costly daily journeys to and from work, and the dangers and delays of mounting traffic congestion.

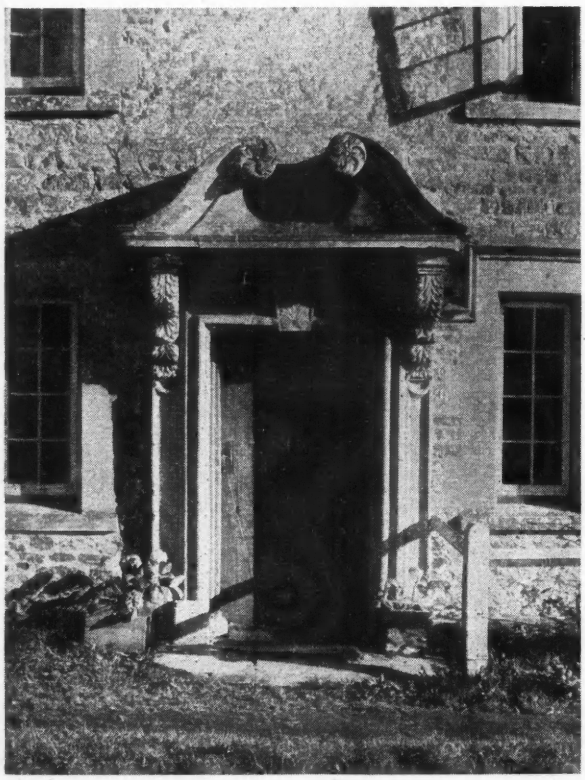
THE DESERTED CITY

THE City has a dual personality which never fails to surprise the visitor to London. By day it is the power-house of enterprise on which our national fortunes to great extent depend; by night most of the half-million persons who man the power-house have departed, and "the square mile," deserted, becomes a mere museum-piece for tourists who find its churches and ancient buildings taking on once more a cloak of medievalism.

The distinction between the City's day and night time uses inevitably makes for artificiality. Over the years population has constantly shrunk in numbers until to-day there are but 4,000 residents within its boundaries as against 11,000 in 1931 and 129,000 in 1801. If this trend continues, and under present circumstances there is no reason to believe that it will not, it can only be a matter of time before night-watchmen and the police become the only inhabitants.

We note with pleasure therefore that the City's Court of Common Council, on the motion of Captain Alfred Instone, is to set up an inquiry into the effect of the decrease in population and to suggest a policy. There is an urgent need, as Captain Instone said, for accommodation in the City for many categories of workers who need to live near their employment, for convenience or in order to save the high cost of travel. There is particularly a great need for hostels for the young workers in business houses, many of whom come from outside London and do not always find suitable living accommodation.

A main difficulty is, of course, the cost of sites in the City, so high as normally to rule out their use for housing. It is significant that the City's newest housing scheme at Golden-lane is partly sited in Finsbury. There appears to be one way in which such accommodation could be provided at other than public expense: by encouraging the big banks and commercial houses to include in their rebuilding schemes some living accommodation on the upper floors. If inducement were needed, it should not prove impracticable to grant waivers for some increase in statutory height of buildings on approved sites where such amenities were proposed. No doubt the Court will give attention to this and other schemes in its efforts to prevent the City becoming an "inhuman desert" which fate, without residential life, it cannot hope to avoid.



VILLAGE FOR THE NATION. The George Inn at Sandy Lane, Wilts, has this lovely Georgian doorway on its western side. The Marquis of Lansdowne is reported to be negotiating to hand over to the National Trust the whole of the village of Sandy Lane, which lies on a by-road between Chippenham and Devizes.

CHURCH ROOFING

THE recent report of a Commission appointed by the Church Assembly to consider the preservation of our churches has made us all aware, if we were not already, of the extent and seriousness of the repair problem which has arisen mainly as a result of the unavoidable neglect of these buildings during the war years. The approval of the report by the Church Assembly, with its recommendation that a central fund of £4,000,000 be raised within the next ten years (to supplement expenditure by the parishes), brings the whole subject out of the realm of uncertainty, where it has so long languished, into that of practical business.

Although there is now a much better understanding of the way to go about the repair of ancient buildings as a result of the work of the S.P.A.B. and of a small number of architects and others who have specialised in it and published accounts of their methods, much inferior and unsuitable work continues to be done, mainly because the builders employed are unskilled in this special class of work, or because competent architectural advice and supervision are lacking.

The repair of old buildings, and of churches in particular, is a matter demanding a thorough knowledge not only of traditional building methods but of the correct techniques of conservation and repair, especially those newer ones which have been developed in recent years. No part of an old building is more vulnerable than the roof, where defects, if neglected, often lead to serious and costly repairs in other parts; and a short time ago the Central Council for the Care of Churches in conjunction with the S.P.A.B. set up a committee to investigate the whole subject of church roofing. This committee has now prepared its report, and in order that the very valuable information which has been collected may be as widely disseminated as possible among those who can make best use of it, *The Builder* has been invited to publish it and gladly accepts the opportunity of doing so.

In this week's issue will be found the first section of the report, dealing with lead roofs; other sections on copper, slate, tiles, thatch, shingles, aluminium, zinc, and non-traditional substitute materials will follow week by week. Here we have an authoritative and up-to-date technical survey of the whole subject of church roofing which should be of the greatest practical value to all now engaged in or concerned with church repair and particularly to those many others who will be taking up this work in the near future; for it can hardly be doubted that with the certainty of many years of interesting and rewarding work before them, the recruits needed—both architects and craftsmen—will be readily forthcoming so that our generation may worthily acquit itself of the task which has fallen to it.

NOTES & NEWS

MUSEUM STAFF ECONOMIES

THE undertaking, given in the House of Commons on Monday by the Financial Secretary to the Treasury, Mr. Boyd-Carpenter, that he would consult with the Museum authorities and the Treasury with a view to deciding whether cuts in museum and art gallery staffs could be sustained without serious impact on these institutions, is the first sensible step yet taken by the Government in this matter. When we first drew attention to the situation (*The Builder*, May 16), it was pointed out that the economy it was sought to attain could be all too dearly bought. In fact, a sum of £30,000 annually is involved and it was a significant feature of Monday's debate on the subject that opposition to maintenance of the present cuts came from all sides of the House.

We shall now hope that the Government will have the courage to reverse its decision which was taken in light of the need for national economy. The possible imposition of a small charge at some of the institutions which are now free of access might well be considered, on the principle that we all set a higher value on that for which we have to pay. But whether this proves practicable or not, our national institutions should remain open.

MECHANICAL MONSTERS

THOSE POLICEMEN who have been bravely struggling just recently to disentangle traffic jams in the West End of London would no doubt agree with Sir Hugh Casson, F.R.I.B.A., who believes that in the motor car we have a monster on our hands.

Sir Hugh expressed this view when on July 10 he distributed prizes among winners in the competition for the design of service stations organised by Shell-Mex and B.P., Ltd. Sir Hugh's remarks clearly revealed that although he drives one, he does not like the motor car. He says it is the destroyer of our cities and is responsible for our roads and highways being littered with a lot of paraphernalia (traffic signals, etc.) which is indescribably ugly.

Despite these criticisms, Sir Hugh had some more favourable things to say about the designs for service stations which the competition produced. On the whole, he thought they gave the effect of being quite efficient and very good-looking, and he recommended them to garage proprietors and town planning authorities. He visualised that some town planning authorities might consider some of the schemes "a bit queer." But he said he hoped that they would treat them imaginatively, for they were not really so queer as they might at first glance appear.

Mr. M. Gregory, Dip.Arch.(Sydney), who is 25, did particularly well in winning first place in two of the three sections into which the competition was divided. High praise is also due to Mr. G. M. Crockett, A.R.I.B.A., who won a first and a second prize.

S.P.A.B. REPORT

IN THE PAST the work of the Society for the Protection of Ancient Buildings was concerned with protecting buildings from lavish and unwise spending. Now the circumstances are completely different. Lack of money for necessary repairs is the main problem with which the Society has to deal. This significant piece of information on changing times is pointed out in the Society's recently issued report covering its seventy-first to seventy-third years—or, in other words, the period from the appearance of its last full-scale report in 1948 to the latter part of 1951.

The decision to repair two more City churches than were envisaged by the Bishop of London's Commission in 1946—St. Andrew-by-the-Wardrobe and St. Mary Aldermanbury—is welcomed, though, the report adds, this has "involved the sacrifice of one church not previously mentioned, St. Alphage, London Wall, and the fate of St. Anne and St. Agnes still hangs in the balance; it is the hope of all lovers of Wren's work that this may be preserved."

As regards the 1949 Housing Act, the Society regards the provision enabling local authorities to make improvement grants for buildings of architectural and historic importance as of great potential value. It regrets, however, that owners are seldom aware of this provision, and that, where applications are made, they are often unsuccessful owing to the stringent requirements of the local authorities, with which it is difficult to comply in dealing with old buildings. It is suggested that the Minister should exercise his powers "in accordance with the spirit of the Act and allow reasonable latitude in the interpretation of the written requirements." The alteration of the law regarding demolition orders is also welcomed.

WIND AND WATER-MILLS

A LARGE PART of the report is devoted to details, with many illustrations, of buildings on behalf of which the society has taken action with varying results during the period reviewed.

Another section deals with the preservation of windmills and water-mills. Only about a tenth of the windmills active in 1924 are at work today, and when a miller gets too old for work it is difficult to find a successor for him. Costs of maintenance, too, are very high. The committee, therefore, "while resolutely continuing to do all it can to help maintain the existing working mills," feels that "a new policy must be framed with the object of permanently preserving a limited number of particular significance in the history of mechanical engineering and milling." The Ancient Monuments Branch of the Ministry of Works has, the report adds, been approached in this matter, and so far two important mills, the drainage mill at Berney Arms, Norfolk, and the post mill at Saxtead Green, Suffolk, have been taken over.

COMING EVENTS

SUNDAY, JULY 20

HEMEL HEMPSTEAD DEVELOPMENT CORPORATION.—Laying by Her Majesty The Queen of the foundation stone of Adeyfield Church.

TUESDAY, JULY 22

L.M.B.A. (SOUTHERN AREA).—Luncheon to be followed by a film show. Café Royal, North End, Croydon. 1 p.m.

"I hear Mr. Posset is in Paris studying new methods of house-warming!"

PROTECTION OF OLD BUILDINGS

THE CHIEF CONCERN last year of the Georgian Group, according to its Annual Report, was the proposed Bill for the protection of monuments and buildings. The change in government allows reconsideration, states the report, but it is more important to ensure that the Bill keeps its place in the national programme. The Group considers that "'There are already too many notices in the Press of Georgian mansions which have been bought 'for demolition;' and if such notices are not more numerous it is because some owners are still holding on in the hope that help will come before it is too late. 'Hope deferred maketh the heart sick,' and each month a few more are given up and sold. Moreover, as time goes on the actual task of preserving the houses becomes more difficult. In many cases repairs are not being carried out at all—and this leads to progressive dilapidation; in others, essential works only are executed and on an economical scale; only a minority of the houses are properly repaired and maintained. Yet all these houses represent an architectural heritage which though it be in private hands is, none the less, a national asset and should be a matter for national pride."

PRESIDENT ELECTED

MR. C. A. HARDING, a partner in the firm of Percy L. Browne, Son and Harding, Newcastle-on-Tyne architects, has been elected president of the Northern Architectural Association. Mr. Harding became a Fellow of the R.I.B.A. 20 years ago.

BUILDINGS AND RELIGION

"WHEN AN ARCHITECT is selected to design a building, his first task is to discover the precise purpose for which the building is intended . . . so it is then that an architect who is entrusted with the design for the Church of England, must study and know intimately the nature of the worship and the traditions upon which this worship is based." This thought is expressed in "The Altar and People," an article contained in the July issue of the journal of the Plymouth branch of the Devon and Cornwall Architectural Society.

To prove the veracity of this statement, the writer goes on to show the development of ecclesiastical architecture through the ages, illustrating how the character of the building reflects the form of religious ceremony conducted within.

This current issue of the journal also includes an article on the life and work of W. R. Lethaby, by J. Brandon-Jones, A.R.I.B.A.

GEORGE VI AND INDUSTRY

"WE ARE OUT to brighten the lives of our fellow-citizens in the workshops, to count them as men and women and not merely instruments of production." These were the words of our late King George the Sixth, who, long before his accession to the throne, and after, showed a keen personal interest in industry and the condition and welfare of the workers.

As Duke of York he was president and later, as King, patron of the Industrial Welfare Society. The Society has now issued an illustrated brochure to commemorate "a great King and a dear friend." Through its pages runs the common theme of what George the Sixth meant to some of the individuals with whom his concern for industry brought him into contact. It is also recorded that he brought to his country a new concept of Royalty, and by his words and actions set a standard for human relations at work that made Britain a better place to work in.

PRESENTATION TO LECTURER

THE LIVERPOOL UNIVERSITY ARCHITECTURAL SOCIETY have presented Barbara Hepworth's "Two Forms, 1949," in white alabaster, to Mr. E. R. F. Cole, for many years senior lecturer at the Liverpool School of Architecture, on the occasion of his retirement.

The presentation was made by Miss Marilyn Marston, lady president of the society, in the presence of students and members of the staff.

BERNARD WEBB STUDENTSHIP

THE Bernard Webb Studentship for the historical and critical study of architecture, which is open to members of the Architectural Association and tenable under the auspices of the British School at Rome, has been awarded to Miss Sheila Gibson, A.R.I.B.A., who will study mosaic decoration in Italy.

AN APPOINTMENT

MR. NEVILLE BORG has been appointed officer in charge of the re-development areas under Birmingham's development plan.

COUNTY SURVEYOR TO RETIRE

MR. G. O. LOCKWOOD, county surveyor of Cumberland since 1923, is to retire in September on reaching the age of 65. Mr. Lockwood has spent 42 years in local government service. His successor will be Mr. F. L. Broughton, who has been deputy county surveyor since 1946.

EXCAVATIONS AT ST. PETER'S

MR. J. B. WARD-PERKINS, Director of the British School at Rome, at the request of the B.B.C. Third Programme, has recently visited the excavations which have been in progress since 1940 under the crypt of St. Peter's, and will report on them in two talks to be given at the end of the summer.

PROFESSIONAL ANNOUNCEMENTS

MR. CECIL MASEY, F.R.I.B.A., informs us that his address is now 6, Stanley Park-road, Wallington, Surrey. Tel.: Wallington 6994.

THE PRACTICE OF MESSRS. HOWARD LEICESTER AND PARTNERS has now been incorporated with that of MR. NORMAN GREEN, F.R.I.B.A., and will be carried on from 12, Adeline-place, Bedford-square, W.C.1. (Tel.: Langham 8577.)

MESSRS. STOCK, PAGE AND STOCK (Col. B. Culmer Page, F.R.I.C.S., F.R.I.B.A., Mr. Terence Culmer Page, F.R.I.B.A., A.A.Dip., Mr. James Maitland, A.R.I.B.A., Mr. David Bowen-Davies, D.F.C., A.R.I.C.S., A.A.I.), architects and surveyors, now practising at 96, Pitfield-street, N.1, announce that as from July 21, their practice will be removed to Fanshaw House, Fanshaw-street, London, N.1.

FROM "THE BUILDER" OF 1852

Saturday, July 17, 1852

THAMES EMBANKMENT. — The Commissioners of Works are empowered by an Act of Parliament, which has just been printed, to construct an embankment and public road, to extend from Vauxhall-bridge to the Chelsea-gardens. What improvement this may be for the public has yet to be seen.

POLISH UNIVERSITY COLLEGE

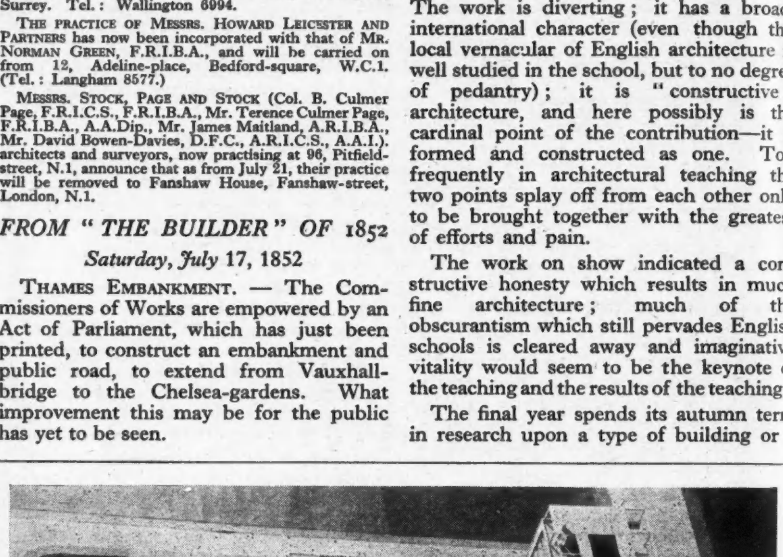
Exhibition of Architectural Students' Work

GRADUALLY the span of the Polish School's annual exhibition is being reduced—certainly not because of a lack of talent, but because in two years' time the school will close. This year only the third, fourth and fifth year work is on view, and in 1954 the fifth year will make its farewell bow—multum in parvo—and the school's short history will end.

A visit to any of the recent Polish exhibitions always impresses with a sense of contribution, given by the students and staff of the school; it is obviously healthy to have in our midst a school of this sort. The work is diverting; it has a broad, international character (even though the local vernacular of English architecture is well studied in the school, but to no degree of pedantry); it is "constructive" architecture, and here possibly is the cardinal point of the contribution—it is formed and constructed as one. Too frequently in architectural teaching the two points splay off from each other only to be brought together with the greatest of efforts and pain.

The work on show indicated a constructive honesty which results in much fine architecture; much of the obscurantism which still pervades English schools is cleared away and imaginative vitality would seem to be the keynote of the teaching and the results of the teaching.

The final year spends its autumn term in research upon a type of building or a



THESIS DESIGN for a Building Centre, London. By A. CHWALIBOGOWSKI (Polish University College School of Architecture).

form of construction. This itself is a good preparation for the thesis subject. I noticed an excellent statement of Aalto's idea for a "pre-lift" office block, where the floors are formed at ground level and raised by cable to the required level; the drawings explained the process practically down to the last rivet and the models of the process took the statement the whole way. Such research is obviously of great value; these collective efforts are studied by the whole school.

Many impressive civic development and redevelopment schemes are exhibited —at Greenwich Messrs. Szanski and Korwin-Rzepecki have designed a living centre of great magnitude; a point block rises west of the Hospital, graduating up the fine slope of Greenwich Hill. Perhaps as an all-over conception it lacks some cohesion—the point blocks could have been grouped together with more effect—yet it remains an excellent effort in large-scale development. The Durham plan by Messrs. Bernas, Lewicki, Szwajkajzer and Wodkiewicz is more closely knit by virtue of the restricted site, a magnificent site at that, with the Cathedral and Castle rising proud of the surrounding river, and here such amenities as entertainment, cultural, shopping and youth centre have been planned with taste and logic. The drawings of the various buildings are illustrative of the sane approach to constructive design so well taught in the school.

ESSAYS ON RECONSTRUCTION

We should indeed be grateful for these essays in reconstruction; it is somewhat natural for us to accept the planning of London at its best, but the scheme for the replanning of Holborn (although impracticable for many years to come) shows with clarity just how efficiently the traffic problem can be solved—if only on paper, or rather by a fine model. Such clear thinking makes the thought of a present-time journey down Oxford-street by bus nothing short of macabre!

I must mention "The Core"—something of a tour-de-force in this year's show—in which a portion of Harlow has been extricated and examined constructively, both aesthetically and physically. The research has been carried out by all the three years and many good suggestions have accrued. The whole is an impressive record of study.

This exhibition should be seen; as in the past it will jog the minds of some of the members of our more reactionary establishments; but that is one of its virtues, another being the teaching of its staff headed by Professor Polujan, an architect of wide experience, L. Neyman his assistant, and W. K. Smigielski in charge of civic design.

This exhibition is open between 10 a.m. and 7 p.m. until July 21, at 7, Cromwell-road, S.W.7. EDWARD PASSMORE.

R.I.B.A. EXAMINATION DATES

THE next R.I.B.A. examination in professional practice and practical experience will be held at the R.I.B.A. on November 3 and 4 next, instead of on October 6 and 7, as previously announced. The closing date for the receipt of forms of application is October 1.

CORRESPONDENCE

SHELL CONCRETE AND THE ARCHITECT

To the Editor of *The Builder*

SIR,—Your leading article last week and the papers on Shell Concrete Construction given at a meeting organised by the Cement and Concrete Association pose, by implication, questions seriously affecting the future of architecture and architectural practice. As you suggest, it is not at all likely that traditional or conventional design and construction will be wholly superseded in the near or even the foreseeable future, but with the great progress which is now being made with newer engineering techniques, particularly shell concrete construction, the question that will soon need to be answered is: Can the architect continue to lead the building team in a field that is becoming increasingly occupied by structural engineering?

Many of your architectural readers must have shivered apprehensively, as I did, at your chilling description of engineers exploring the "ice-cold regions of stratospherically high mathematics." The schism between architecture and engineering which began in the early years of the nineteenth century and which has become more and more acute with scientific progress was due, at least in part, to the natural antipathy of the architect to mathematical calculations. Only rarely, alas, do we find among architects the Wren-like combination of scientist and artist, and it would be against human probability to expect the requisite increase in that type of mind to ensure architectural supremacy in a field which is becoming more and more scientific. Therefore, if the architect is to retain the leadership of the building team to which his qualifications as planner and organiser entitle him, it can only be by some sort of compromise.

I can see no more than four possible alternatives:—(1) The employment by the client of the engineer as a consultant on terms of equality with the architect; (2) The use by the architect of firms of structural engineering contractors who are willing to do the scientific designing for a fee which is, of course, concealed in the cost of the work; (3) Partnership between architect and engineer; and (4) Combination of architect, engineer and building contractor, possibly on a partnership basis.

Let us examine these alternatives a little closer. (1) is not likely to prove a permanent solution of the problem for the reason that the client is certain to get tired of paying fees to a consultant for services which he may reasonably think himself entitled to expect from the architect; and the danger here is that when the client finds that the engineer is indispensable he may drop the architect. Course (2) has become quite common practice in many sub-contracting departments of building, but it does not redound to the credit of the profession nor does it provide a solution satisfactory to all parties, particularly the building owner. Course (3), partnership between architect and engineer, would perhaps be the ideal arrangement if partnerships did not have a habit of going to pieces on the rocks of discord. For large-scale operations course (4) might well prove to be a workable solution, as it has in the United States, where general contractors often employ not only architects and engineers but all other specialists in their organisations.

For many this would mean the end of independent private practice as we know it to-day, but in the public interest that might be preferable to the loss of architectural control of major building which is threatened by these new developments in structural engineering. I should like to see the question thoroughly ventilated in your columns.

I enclose my card.

JUNIUS.

QUANTITY SURVEYING: THE BROADENING HORIZON

To the Editor of *The Builder*

SIR,—The references made by your correspondent Mr. James R. Turner to the contractor's quantity surveyor (*The Builder*, July 4) seem to be as uncharitable as they are inaccurate. His suggestion that the existence of the contractor's surveyor plays any major part (or, indeed, any part at all) in the "present extremely high cost of building" is surely beyond belief.

Mr. Turner seems to labour under two main delusions: (1) that the contractor can have no reason for employing his own quantity surveyor other than a lack of confidence in the client's surveyor; and (2) that the duties of the contractor's surveyor are confined solely to the agreement of the main account.

Proposition (2) is palpably absurd; how, for instance, does Mr. Turner suppose that sub-contract accounts get themselves settled? As to (1) why should it be assumed that all discussions on this subject must hinge on the question of integrity, as though one side or the other of the professional fence could possibly claim a monopoly in virtue?

Mr. Turner quotes the R.I.B.A. standard form of contract which provides that a representative of the contractor shall be present at the measurement of variations. Which kind of representative would the professional surveyor prefer to meet—a man ignorant of the fundamental principles of the intricate processes involved in the preparation of a final account, or a man trained in quantity surveying procedure, who knows and can anticipate his requirements, who does not have to have the elements of the job explained to him and who can often supply vital relevant information which might not otherwise be taken into account?

The professional quantity surveyor wants his final account to be a just and equitable document and what is more he wants the contractor to be satisfied that it really is so. Both objects are achieved when the preparation of the account is checked at every stage by a contractor's representative who is also a trained quantity surveyor.

J. LESTER.

London, S.E.24.

THE QUANTITY SURVEYOR'S CLAIM TO DIRECT BUILDING OPERATIONS

To the Editor of *The Builder*

SIR,—The recent correspondence in your journal regarding the position of the quantity surveyor should be noted if only for the remarkable passions it appears to have aroused in representatives (both named and anonymous) of various sections of the industry.

Your correspondence column alone suggests that there is a case for the re-examination of the quantity surveyor's duties in the light of modern practice. But surely the present situation, accurately described by "Wigan Bricky," is ideal from the quantity surveyor's point of view? He measures, values, negotiates, estimates and reports solely as the servant of the architect, contractor and client.

I do not think the quantity surveyor would be annoyed with "Wigan Bricky's" statement that he is the assistant who does the arithmetic. It must be admitted, however, that the arithmetic does get rather complicated at times!

It would be interesting to learn your correspondent's views on the following brief propositions:

(1) The quantity surveyor is the technical accountant to a building contract.

(2) The architect is responsible for the final cost of the works.

(3) The quantity surveyor ascertains that final cost.

(4) The slogan "Plans before quantities" would solve all our difficulties.

W. B. WYATT
[A.R.I.C.S., A.I.Arb.]
18, Sylvan-road, E.11.

COLOUR ON DOORS

To the Editor of *The Builder*

SIR,—Referring to your comments in a recent issue (June 13) regarding a Norfolk housing authority's estate, may be that tenants, who are for the most part forced to live in flimsy, barrack-cum-factory-looking council establishments, through lack of other planning, consider that almost identical, monotonous-looking structures cannot express individuality by having their woodwork painted in bizarre clashing colours.

They no doubt appreciate the benign intentions of the myriads of local and governmental officials who always know what is good for us, but it is possible that the tenants realise that brilliant doors have much in common with long hair styles, beards and brilliant ties, in that both express a desire to be conspicuous as a cover for mediocrity.

When architects realise that people outside their profession may possess both intelligence and taste, we may then begin to see the construction of edifices comparable in beauty and durability to those of the past.

C. F. BATH [A.M.I.Struct.E.]
24, Birchington Court, N.W.6.

BUILDING SOCIETIES' MANAGEMENT

To the Editor of *The Builder*.

SIR,—May I answer the several questions asked in the letter from Mr. John Arnold which appeared in your issue for July 4? His most important point is that building societies should ask the Chancellor of the Exchequer "as they are entitled to do" to reduce the composite rate of income tax. I am afraid that building societies are not entitled to ask for any concession under this heading. The Income Tax Act provides that the Commissioners of Inland Revenue must aim at securing the same amount of tax from building societies and their investors under the "composite rate" arrangements as they would have obtained if those arrangements had not existed. The purpose of the arrangements is to serve the conveniences of investors and not to give any concession to building societies. I can, however, assure Mr. Arnold that negotiations are in progress for the adjustment of the composite rate on the grounds mentioned in the last paragraph of his letter, which raises a different point. I must, however, remind him that building societies pay tax at the standard rate on their own taxable profits.

As regards his other points, building societies do make every effort to secure money on deposit, but the amount which can be obtained in this way is limited by law and by other factors. I do not think it is correct to say that surplus funds are tied up in long-term stocks; for the most part they are, as Mr. Arnold suggests they should be, invested in short, or medium-dated securities.

Mr. Arnold refers also to the profits tax; this is a heavy and, I consider, unjustified burden on building societies, and very strong pleas for the reduction of this burden have been made to successive Governments. The Association is at present awaiting the Chancellor's reply to the latest representations.

HUBERT NEWTON, Chairman, The Building Societies Association.
14, Park-street, W.1.

ERADICATION OF DRY ROT

To the Editor of *The Builder*

SIR,—I have read with interest the letter from Mr. J. Peachey in your issue of July 4.

I entirely agree that the eradication of dry rot calls for expert knowledge and meticulous care. With reference to the first paragraph, however, I would point out that it is possible to treat timber in such a way that it will not be attacked by *merulius lacrymans*.

My association has published a leaflet dealing with the subject of dry rot, and copies can be obtained free of charge on application to this office.

H. A. Cox,
Technical Director, British Wood Preserving Association.
21, College-hill, E.C.4.

UNDER-PINNING FOUNDATIONS

To the Editor of *The Builder*

SIR,—The point raised in this case appears to be one of undermining a foundation, by virtue of the foundations and excavation of drainage. In my view it is the duty of the clerk of works to carry out the instructions and the orders of the architect and engineer he represents; if, however, his views are not consistent with those of the architect, he should put them in writing which may be a defence if later anything in the nature of trouble occurred.

In this case, the contractor carried out the excavation in accordance with the architect's instructions; it therefore follows that the instruction given to fill in with weak concrete (which should represent the consolidated soil in value) is perfectly valid, essential and in order.

The suggestion that it was the contractor's responsibility would not be accepted by law should settlements appear in the adjacent building; conversely, if concrete was ordered and was not placed in the trenches, this would then be the contractor's responsibility.

The suggestion of the clerk of works is not reasonable, as it carries with it a disregard for the architect's instructions.

In passing, one may say that the weak concrete need not have been specified or thought necessary, but that does not stop an architect from giving a variation order to meet the liability unforeseen at the time of the preparation of the specification; and from requesting the clerk of works to see the order fulfilled.

G. W. HARRIS [H.F.M.I.C.W.]

OBITUARY

A. EDGAR BERESFORD, F.R.I.B.A.

THE FOLLOWING MEMOIR of the late Mr. A. Edgar Beresford (whose death was reported in our issue of April 18) is contributed by Mr. J. Kennedy Hawkes, A.R.I.B.A.:

It was with very great regret that I heard of the recent death of my old chief, and friend, Edgar Beresford. I was articled to Messrs. Baillie Scott and Beresford in 1928, and spent three happy and most instructive years with them in Gray's Inn-square. Their practice, in which they both took an active part, was chiefly domestic, and is so well known both in the British Isles and abroad as to need no further comment here. The untimely death of Baillie Scott during the last war ended the partnership, and Edgar Beresford went to live and practise at Newquay in Cornwall, and was responsible for much excellent architectural work in that county. Three years ago he came to see me and was obviously very ill; later his health failed to the extent that he was confined to his house, and could take no further part in the practical side of the art he enjoyed so much.

Edgar Beresford was an exceptional architect inasmuch as he combined a fine artistry and power of design with an enviable practical knowledge of the building crafts. His was a grand nature, kindly, tolerant and humorous, always ready to help and encourage the younger men of his time. He will be sadly missed.

CLEMENT PALMER, F.R.I.B.A.

We regret to record the death on July 10 at his home at Flushing, Cornwall, of Mr. Clement Palmer, who was aged 95.

SYDNEY G. HAWKES

We regret to record the death on June 30 of Mr. Sydney G. Hawkes, late senior partner in the firm of Hawkes and Hawkes, quantity surveyors, of Gray's Inn, London. Aged 78, he had, in more recent years, acted in a consultative capacity to the firm.

CHURCH ROOFING

Report of the Committee Appointed by the Central Council for the Care of Churches in Conjunction with the Society for the Protection of Ancient Buildings

On page 97 of this issue will be found the first of the suggested codes of practice (on Lead) drawn up by a committee of six architects with experience in the repair and maintenance of ancient buildings. The codes dealing with other materials in church roofing will be published in subsequent issues of "The Builder."

SINCE the war church roof coverings have become a major problem. This is partly due to extensive war damage (church roofs were very vulnerable to incendiarism and the effects of blast) and to deferred maintenance. But a special contribution to this current problem has been the temporarily inflated value of lead, which has resulted in widespread thefts of this metal from the roofs of churches and other buildings throughout the country. Many church roofs have been stripped overnight of the whole or part of their lead covering and church authorities have found themselves faced, at a time of great financial tension, with the loss of their leadwork and the consequent need for an immediate temporary protection to keep their churches weathertight until new leadwork or some alternative material of a permanent character be installed.

To assist the clergy, parochial church councils, and diocesan advisory committees to reach wise decisions on the most suitable materials for the roofs of churches under their control, a fully documented report on the whole range of roofing materials together with a suggested code of practice for churches has been drawn up by a committee of six architects with experience in the repair and maintenance of ancient buildings—the committee having been appointed by the Central Council for the Care of Churches in conjunction with the Society for the Protection of Ancient Buildings.

Meantime, the available materials are here briefly described and our conclusions are summarised :

The roofs of churches are among their most characteristic and beautiful architectural details, and are often distinctive features in town and country landscapes. The texture and colour of their coverings and—since added beauty comes with age—their durability are therefore of the first importance. No non-traditional materials known to us possess these qualities to a degree in any way commensurate with that of traditional materials. In general, then, our opinion is that where æsthetic considerations are involved the use of traditional materials should be unquestioned and that in the case of ancient churches the type of covering used at the time of building should be perpetuated wherever possible.

Though it must be hoped that the present criminal phase in the history of leadwork is a passing one, a case undoubtedly exists at the moment for the employment of some alternative material where lead has been wholly or substantially stolen. In such cases we recommend copper as the best alternative. Its texture and æsthetic qualities are comparable in their own way with those of lead ; it can be used without regard to roof pitch.

In no circumstances should leadwork be removed, either in order to forestall theft or with a view to selling it and using the proceeds for church maintenance—a policy which is being recommended and carried out in certain places. This measure is in our opinion unwise and to be regretted, as not only is lead an asset in itself as one of the most desirable of roofing materials, but it survives on many roofs as an example of the craftsmanship of past ages with an historic value beyond price.

The best immediate financial safeguard for lead roofs is insurance. Lead can now be insured with a good company for moderate premiums, which include cover for the repair of incidental damage.

Our conclusions may be stated as follows :—

1. The materials to be used on church roofs should be the best and most enduring possible. They should, moreover, be in character with the fabric and in keeping with past tradition and craftsmanship.

2. The requirements which have to be satisfied in dealing with churches are entirely different from those of modern commercial buildings, as well as involving an entirely different scale of permanence.

3. *Lead and copper* are the most desirable permanent coverings for a church. Therefore, if a lead covering demands renewal, the lead should whenever possible be recast and replaced ; if this is financially out of the question, copper should be substituted. Even for concealed roofs, where æsthetic considerations are less important, we advise the use of lead or copper which, because of their durability, involve small maintenance costs only.

4. *Tiles, slates, thatch and shingles* are also desirable traditional coverings and are neither difficult to obtain nor prohibitive in cost ; but as they vary materially in colour, texture and durability, some discretion is necessary in their use. Their length of life may well be limited by their fixings. All these materials save thatch are used on occasions for vertical cladding, so no roof is too steep for them ; only minimum pitches require consideration. They should be used in the following order of steepening pitches—shingles, Welsh slates, interlocking tiles, stone slates, flat tiles and thatch. These materials also vary greatly in weight, which may have a bearing on their choice. Shingles are by far the lightest, then come thatch, Welsh slates, interlocking tiles, plain tiles and finally stone slates. Thatch and shingles are recommended in districts where a strong local tradition in their use has grown up and persists ; but their fire risk and the high maintenance cost of thatch must not be overlooked. Handmade tiles and good-quality slates and stone tiles are preferable from the point of view of durability.

5. *Aluminium* may in course of time prove to be of permanent worth, but present knowledge and experience of the life and behaviour of this material on churches is such that it cannot be recommended as a substitute for lead or copper.

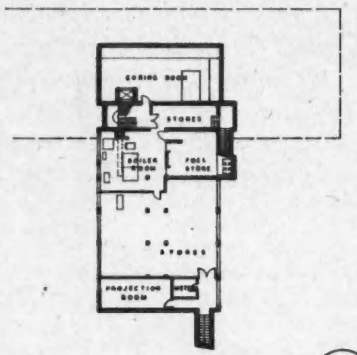
6. *Zinc* is not recommended for church roofs.

7. Of substitute materials *asphalt* is valuable and enduring for weatherings, particularly the upper surfaces of projecting cornices, etc., but it is not regarded as a suitable covering when laid on boarding and timber trusses which are subject to thermal changes with resultant cracking of the asphalt. *Bituminous materials* are useful for temporary coverings ; but because of the added risk of fire or spread of fire consequent upon their employment, we are of opinion that in most circumstances the best temporary substitute material for churches is *asbestos-cement*.

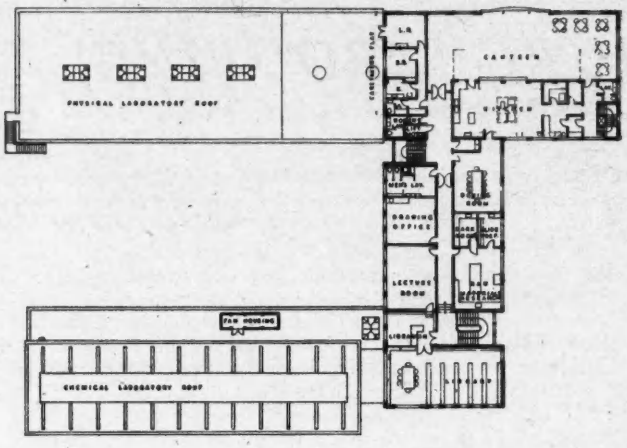
Finally, we would stress that, whenever any extensive roofing work on an old church is in prospect, the services of an architect experienced in ancient buildings should be obtained.

W. GODFREY ALLEN, F.R.I.B.A. (Chairman), L. BOND, F.R.I.B.A., J. E. M. MACGREGOR, F.R.I.B.A., D. G. MARTIN, A.R.I.B.A., G. G. PACE, F.R.I.B.A., ROBERT POTTER, F.R.I.B.A.

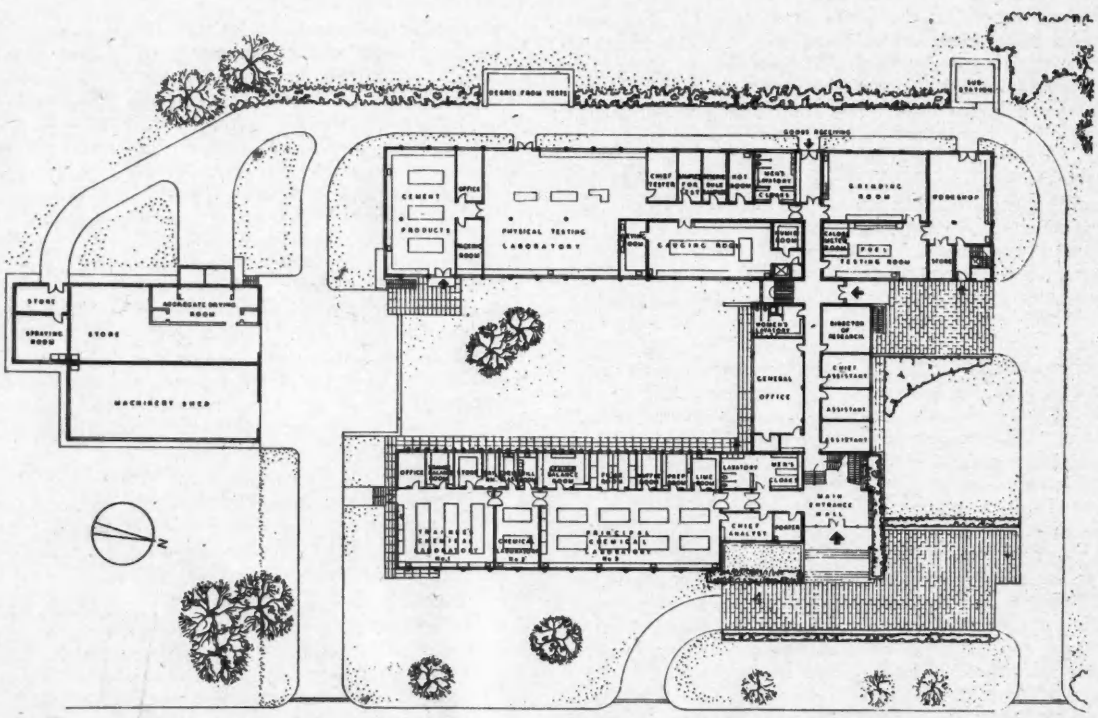
Roofing Committee, Central Council for the Care of Churches.



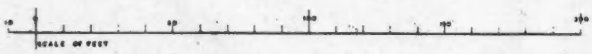
BASEMENT PLAN



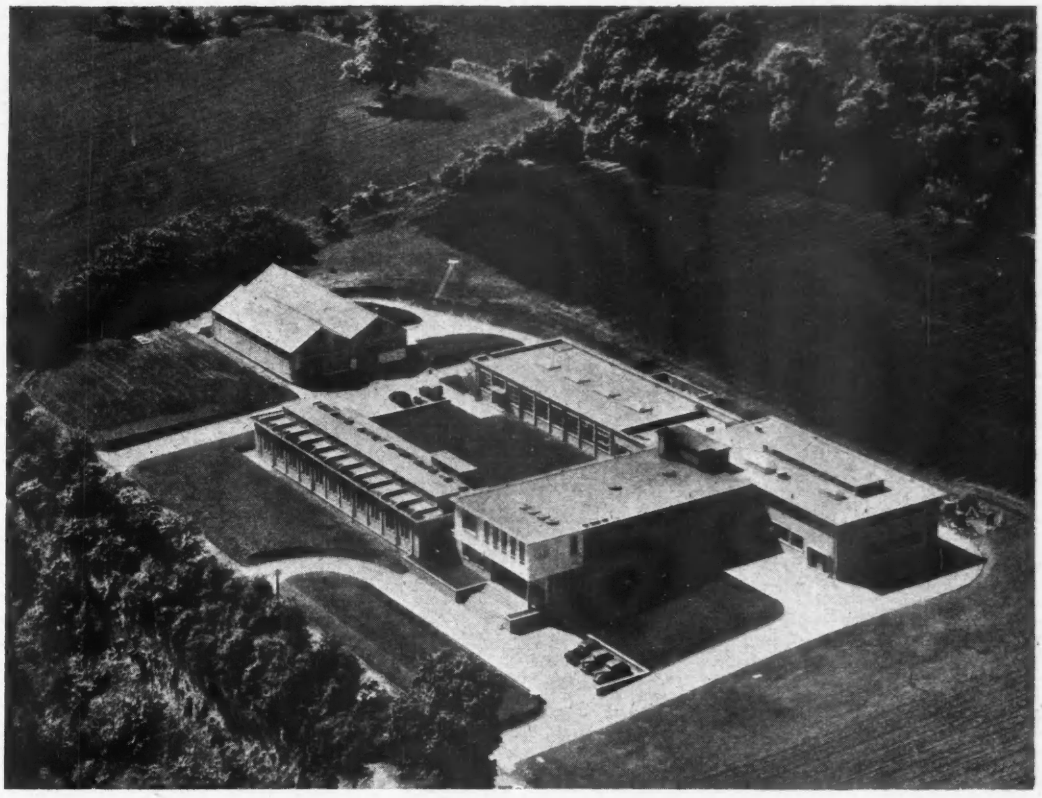
FIRST FLOOR PLAN



GROUND FLOOR PLAN



RESEARCH LABORATORIES FOR CEMENT INDUSTRY, GREENHITHE, KENT



Aerial view from the north-east. Below : General view from the north-east.

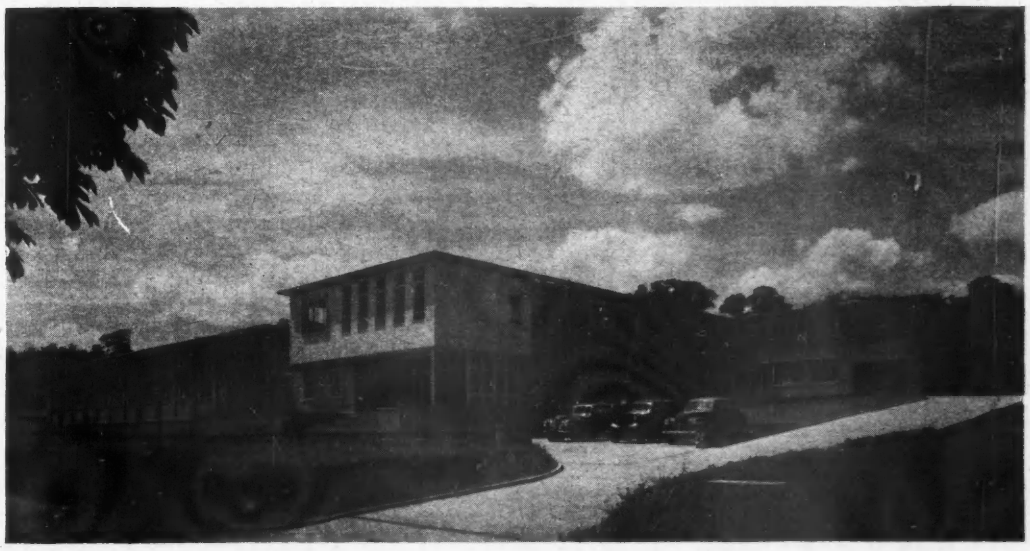
Research Laboratories for Cement Industry, Greenhithe, Kent

WESTWOOD, SONS & HARRISON, FF.RIBA, ARCHITECTS

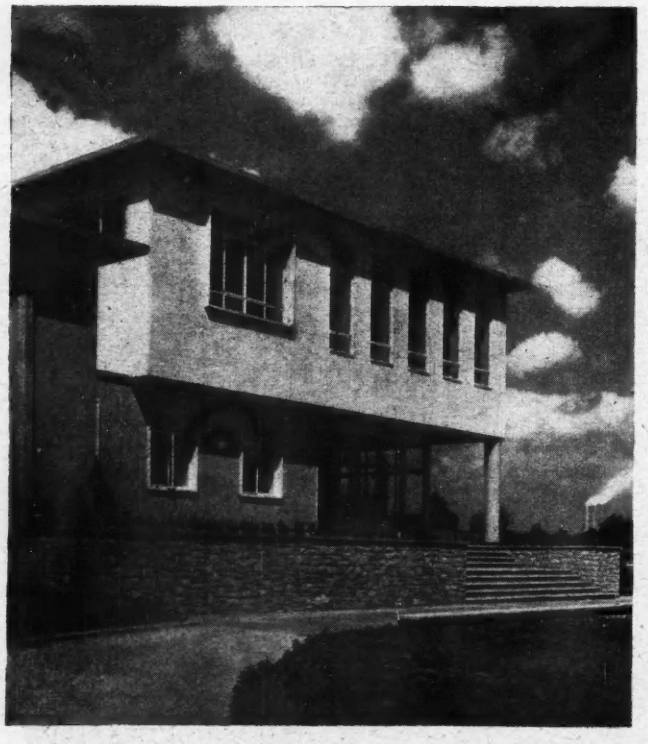
CHIEF ASSISTANT : NOEL BRANDON-JONES, ARIBA

THESE research laboratories at Greenhithe, Kent, which have been constructed for the Blue Circle Group, Associated Portland Cement Manufacturers, Ltd., were officially opened on July 11 by Mr. David Eccles, Minister of Works.

The accommodation required fell naturally into three main groups : administrative offices, chemical laboratories, and physical testing laboratories. The site slope is approximately twelve feet diagonally across the building, and the careful use of varying floor



This view of the laboratories shows the Tyrolean oyster-pink "Cullamix" finish to the walls above ground level and, on left, the cast stone slabs on the library over the main entrance. The cast stone window cills, heads, and jambs can also be seen.



Detail of cast stone facing over the main entrance.

levels has therefore been a fundamental feature of design.

Suspended floors and roofs throughout are of reinforced concrete. External walls generally are of cavity construction, the outer skin being 4½ in. hollow clinker concrete blocks and the inner skin 4½ in. hollow foamed slag concrete blocks. Basement walls are solid, consisting of 7½ in. of reinforced concrete with 4½ in. hollow foamed slag concrete blocks forming a permanent shuttering on the inner face, the concrete being bush hammered where above ground level.

A bas relief symbolising chemical research forms a decorative motif on the north wall of the library. This was designed by Mr. Eric Peskett, A.R.C.A., and cast as part of the facing slabs. Cast Portland stone was also used for window surrounds, cills, jambs and heads, the latter being cast *in situ* as an integral part of the beam casings. Concrete bricks were used to give relief in places between windows.

A "Cullamix" rubbed Tyrolean finish has been applied to the walls of the main entrance hall and stairs. Reinforced concrete floors and roof slabs were cast *in situ* on a permanent shuttering of wood-wool-cement slabs providing sound and

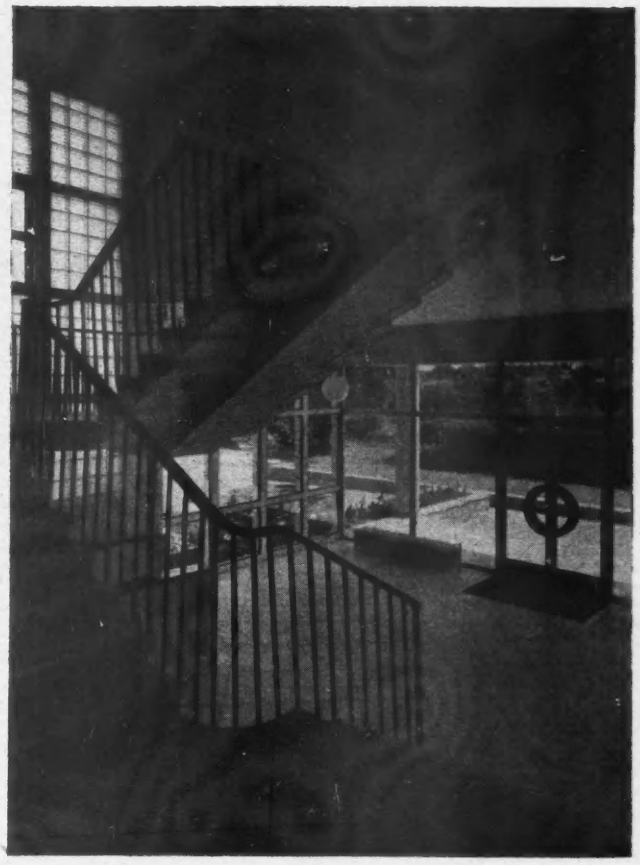
heat insulation. Roofs are surfaced with asphalt. Floors are finished with thermoplastic resin-bonded tiles in offices and the canteen, but granolithic paving has been used in the main physical testing laboratory and other heavy duty rooms. Terrazzo is used in the main entrance hall and staircases.

Throughout the chemical laboratory wing hardwood (Missanda) blocks have been selected for chemical resistant qualities. In the library cork tiles are used. In the canteen kitchen the flooring is a special grease-resistant coloured concrete tile. Window frames generally are in aluminium alloy.

The building is naturally ventilated and is heated by hot water radiators. The chemical laboratories rely entirely on artificial ventilation. A special problem was presented by the large number of services required in the building. As far as possible these have been concealed, but at the same time kept easily accessible, by the provision of ducts with removable covers, or by running them behind benches with removable back panels.

The chartered structural engineers were Messrs. E. P. Wells, Cocking and Meston; the consulting engineers for services were Messrs. A. F. Myers and Partners; and the quantity surveyor was Mr. Cyril Sweett, F.R.I.C.S.

The general contractors were Messrs. Richard Costain, Ltd. Subcontractors will be found on page 111.



Above and below: Views of the main entrance hall and main staircase.

RESEARCH LABORATORIES FOR CEMENT INDUSTRY, GREENHITHE, KENT

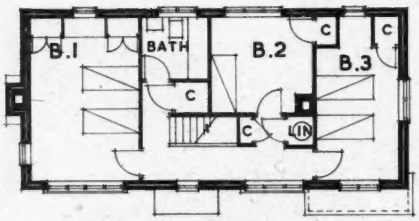
Photographs : Sydney Newbery.

The south front. Local multi-coloured bricks, with hand-made tiles, have been used.

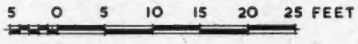
"PIPPINS" : A House at Balcombe, Sussex

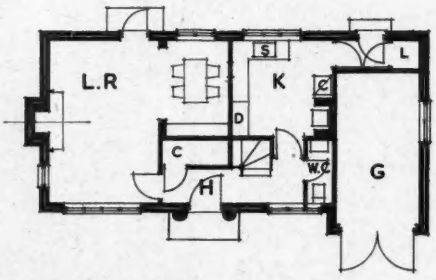
L. KEIR HETT, FRIBA,
(OF SEARLE & SEARLE)
ARCHITECT

COMPLETED in February last, this house was built on a transfer licence from a Metropolitan Borough to Cuckfield R.D.C. In its small way, it exemplifies the difficulty which in these days faces the private owner-builder. Fortunate enough to find in 1949 an half-acre site which had been registered as a "single plot," the building owner wished to obtain a clearance from the Central Land Board before completing the conveyance. The Board stated, however, that its custom was to grant clearances only after a building licence had been granted, yet was adamant that it would not



FIRST FLOOR.





GROUND FLOOR.

Detail view of south elevation. The doorway is cream stucco. The door itself is Wilton blue. Windows are metal in wood frames, painted broken white.

be prepared to remit development charge if the ground was bought without a licence being made available. As at this stage no licence had been granted, the circle of frustration seemed complete.

Through the forbearance of the ground landlord, who agreed to continue an option on the site, the building owner set out to break the circle. Plans were prepared and submitted for planning approval to the District Council. Reduction of the ratio of private licences to one in ten at the end of 1949 meant that a licence expected was not forthcoming locally, but fortunately an application to a Metropolitan borough for a transfer was successful in the autumn of 1950. (It appeared that the housing committee had been sufficiently impressed by the rashness of an applicant who had had plans drawn up without having possession of a site to reward him with a licence.) The ground could now be bought.

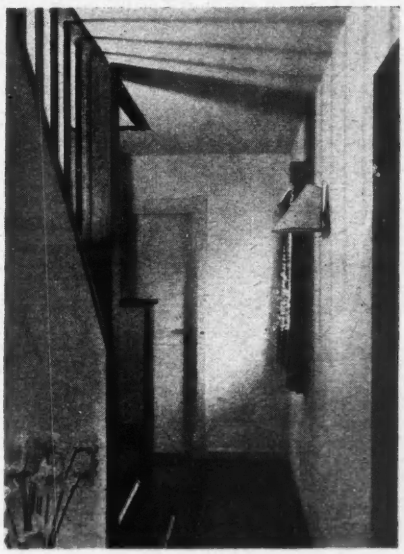
At this point the fun really began. The licence amount fell short of a building estimate by over £1,000, and, at the licensing officer's suggestion, it was decided to go to tender on quantities (at that time required for buildings over £1,500 estimated value). The lowest figure was given by the builder who had put in the original price but £200 higher. No other course was open but to abandon the original plan, pay consultants' fees for abandoned work, and make a fresh start on a slightly smaller house. A licence amount of £2,900 was granted and a tender negotiated within this figure with a firm who were about to commence on a local authority scheme nearby. Building began in July, 1951, and the house was completed at the end of February last, without serious hitch, except for small delays occasioned by shortage of bricks and cast-iron rainwater goods. Thus ended a saga which had extended over 30 months, of which only eight had been occupied by actual building.

As the site was clay and wet, foundations were taken down to 3 ft. and an extra course of brickwork put in below dampcourse. A membrane was laid between the concrete raft and the upper screed as additional protection against damp. Walls are 11 in. cavity construction, using Freshfield Lane multi-coloured facings externally, the roof being in Colliers' sandfaced tiles. The oversailing course and window

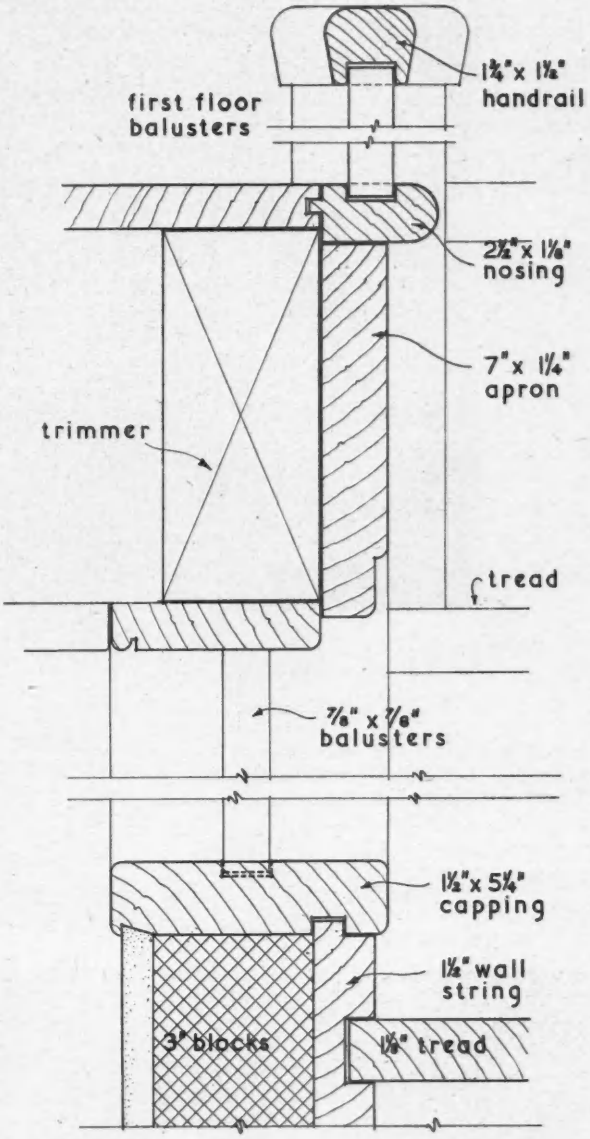
The living-room. Walls are distempered palest pink, and curtains are Stuart tartan. The surround to the fireplace (built in 2-in. local bricks) and the bookcase were made in the builders' joinery shop in West African Meranti. Floors are cork-tiled and carpet navy blue.

Seen on left is the dining recess, lit by bulkhead light in ceiling. The hatch opens to the kitchen.

First-floor landing. Curtains are red and blue check, and paintwork and distemper broken white. The stairs and balustrade are in West African Doussie.



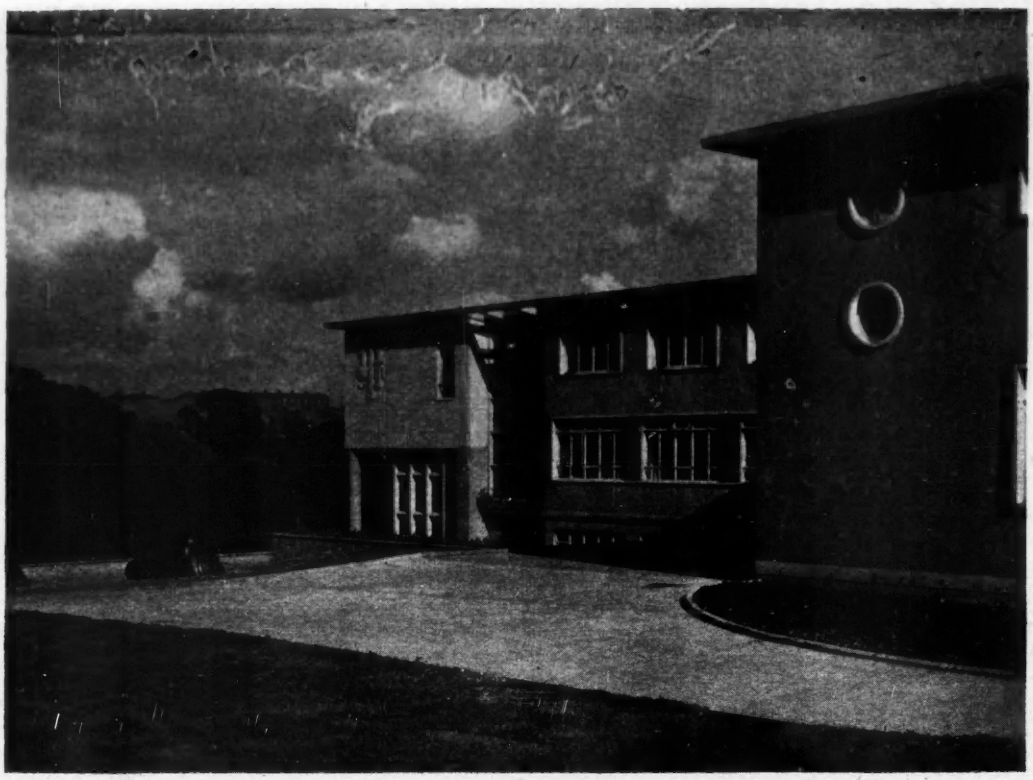
Hall and staircase foot.



Details of staircase construction.

cills are of 2 in. local briquettes on edge. Windows are metal, in wood casements. Walls are plastered and distempered, and all paintwork is broken white; the kitchen cabinets are painted Wilton blue. Red quarries are used for kitchen floor. Rooms upstairs are boarded and close carpeted except for the bathroom; this, and the whole of the ground floor, is cork tiled, splendidly laid by the subcontractor; the bathroom is half-tiled with Carter's egg-shell blue tiles. Sanitary fittings are primrose.

By arrangement, the architect took the job up to working drawing stage, and supervision was thereafter given by Mr. Edward Forster, B.A., F.R.I.B.A., who also detailed the staircase (in West African Doussie) and the fireplace and bookcase; in these West African Meranti was employed. The bricks used for the infilling of the fireplace are the same as used on the window cills; the hearth is laid in red quarries, polished. Plumbing internally is copper, hot water being supplied by an Ideal boiler, the lagged hotwater tank being fitted with an immersion heater. The whole work owed much to the co-operative enthusiasm of the builders, Messrs. Eames and Calverley, Ltd., of Ringmer, and their men, and to the skill of the foreman, Mr. Dick Stone, whose grandfather worked on the construction of the



This view of the laboratories shows the Tyrolean oyster-pink "Cullamix" finish to the walls above ground level and, on left, the cast stone slabs on the library over the main entrance. The cast stone window cills, heads, and jambs can also be seen.

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levels has therefore been a fundamental feature of design.

Suspended floors and roofs throughout are of reinforced concrete. External walls generally are of cavity construction, the outer skin being 4½ in. hollow clinker concrete blocks and the inner skin 4½ in. hollow foamed slag concrete blocks. Basement walls are solid, consisting of 7½ in. of reinforced concrete with 4½ in. hollow foamed slag concrete blocks forming a permanent shuttering on the inner face, the concrete being bush hammered where above ground level.

A bas relief symbolising chemical research forms a decorative motif on the north wall of the library. This was designed by Mr. Eric Peskett, A.R.C.A., and cast as part of the facing slabs. Cast Portland stone was also used for window surrounds, cills, jambs and heads, the latter being cast *in situ* as an integral part of the beam casings. Concrete bricks were used to give relief in places between windows.

A "Cullamix" rubbed Tyrolean finish has been applied to the walls of the main entrance hall and stairs. Reinforced concrete floors and roof slabs were cast *in situ* on a permanent shuttering of wood-wool-cement slabs providing sound and

heat insulation. Roofs are surfaced with asphalt. Floors are finished with thermoplastic resin-bonded tiles in offices and the canteen, but granolithic paving has been used in the main physical testing laboratory and other heavy duty rooms. Terrazzo is used in the main entrance hall and staircases.

Throughout the chemical laboratory wing hardwood (Missanda) blocks have been selected for chemical resistant qualities. In the library cork tiles are used. In the canteen kitchen the flooring is a special grease-resistant coloured concrete tile. Window frames generally are in aluminium alloy.

The building is naturally ventilated and is heated by hot water radiators. The chemical laboratories rely entirely on artificial ventilation. A special problem was presented by the large number of services required in the building. As far as possible these have been concealed, but at the same time kept easily accessible, by the provision of ducts with removable covers, or by running them behind benches with removable back panels.

The chartered structural engineers were Messrs. E. P. Wells, Cocking and Meston; the consulting engineers for services were Messrs. A. F. Myers and Partners; and the quantity surveyor was Mr. Cyril Sweett, F.R.I.C.S.

The general contractors were Messrs. Richard Costain, Ltd. Subcontractors will be found on page 111.

Above and below: Views of the main entrance hall and main staircase.

RESEARCH LABORATORIES FOR CEMENT INDUSTRY, GREENHITHE, KENT

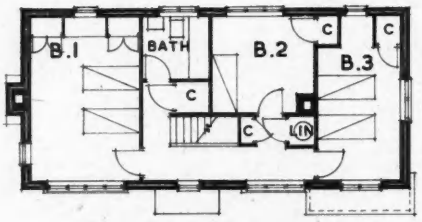
Photographs : Sydney Newbery.

The south front. Local multi-coloured bricks, with hand-made tiles, have been used.

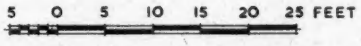
"PIPPINS" : A House at Balcombe, Sussex

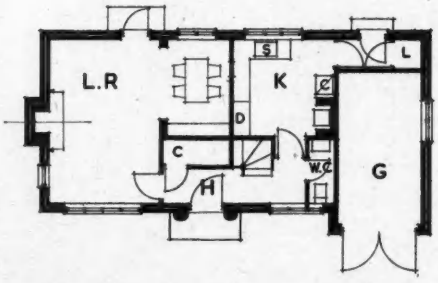
L. KEIR HETT, FRIBA,
(OF SEARLE & SEARLE)
ARCHITECT

COMPLETED in February last, this house was built on a transfer licence from a Metropolitan Borough to Cuckfield R.D.C. In its small way, it exemplifies the difficulty which in these days faces the private owner-builder. Fortunate enough to find in 1949 an half-acre site which had been registered as a "single plot," the building owner wished to obtain a clearance from the Central Land Board before completing the conveyance. The Board stated, however, that its custom was to grant clearances only after a building licence had been granted, yet was adamant that it would not



FIRST FLOOR.





GROUND FLOOR.

Detail view of south elevation. The doorway is cream stucco. The door itself is Wilton blue. Windows are metal in wood frames, painted broken white.

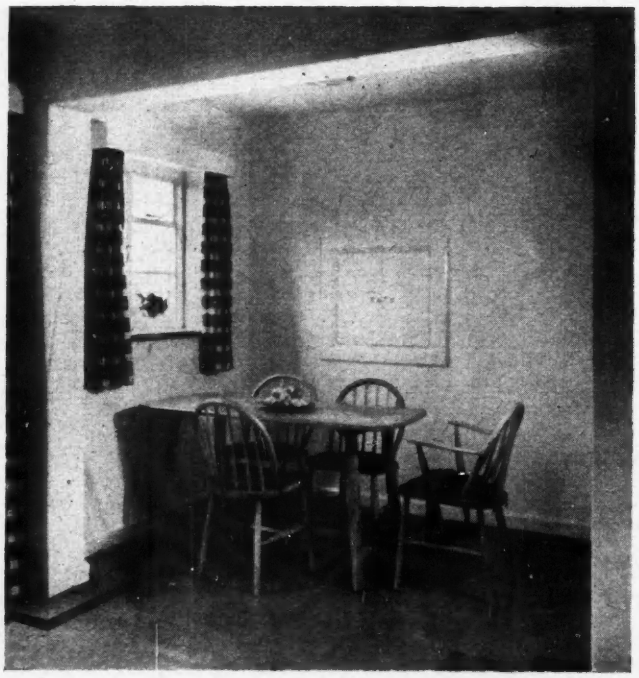
be prepared to remit development charge if the ground was bought without a licence being made available. As at this stage no licence had been granted, the circle of frustration seemed complete.

Through the forbearance of the ground landlord, who agreed to continue an option on the site, the building owner set out to break the circle. Plans were prepared and submitted for planning approval to the District Council. Reduction of the ratio of private licences to one in ten at the end of 1949 meant that a licence expected was not forthcoming locally, but fortunately an application to a Metropolitan borough for a transfer was successful in the autumn of 1950. (It appeared that the housing committee had been sufficiently impressed by the rashness of an applicant who had had plans drawn up without having possession of a site to reward him with a licence.) The ground could now be bought.

At this point the fun really began. The licence amount fell short of a building estimate by over £1,000, and, at the licensing officer's suggestion, it was decided to go to tender on quantities (at that time required for buildings over £1,500 estimated value). The lowest figure was given by the builder who had put in the original price but £200 higher. No other course was open but to abandon the original plan, pay consultants' fees for abandoned work, and make a fresh start on a slightly smaller house. A licence amount of £2,900 was granted and a tender negotiated within this figure with a firm who were about to commence on a local authority scheme nearby. Building began in July, 1951, and the house was completed at the end of February last, without serious hitch, except for small delays occasioned by shortage of bricks and cast-iron rainwater goods. Thus ended a saga which had extended over 30 months, of which only eight had been occupied by actual building.

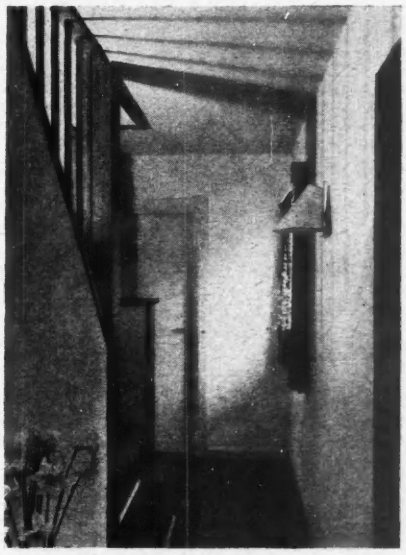
As the site was clay and wet, foundations were taken down to 3 ft. and an extra course of brickwork put in below dampcourse. A membrane was laid between the concrete raft and the upper screed as additional protection against damp. Walls are 11 in. cavity construction, using Freshfield Lane multi-coloured facings externally, the roof being in Colliers' sandfaced tiles. The oversailing course and window

The living-room. Walls are distempered palest pink, and curtains are Stuart tartan. The surround to the fireplace (built in 2-in. local bricks) and the bookcase were made in the builders' joinery shop in West African Meranti. Floors are cork-tiled and carpet navy blue.

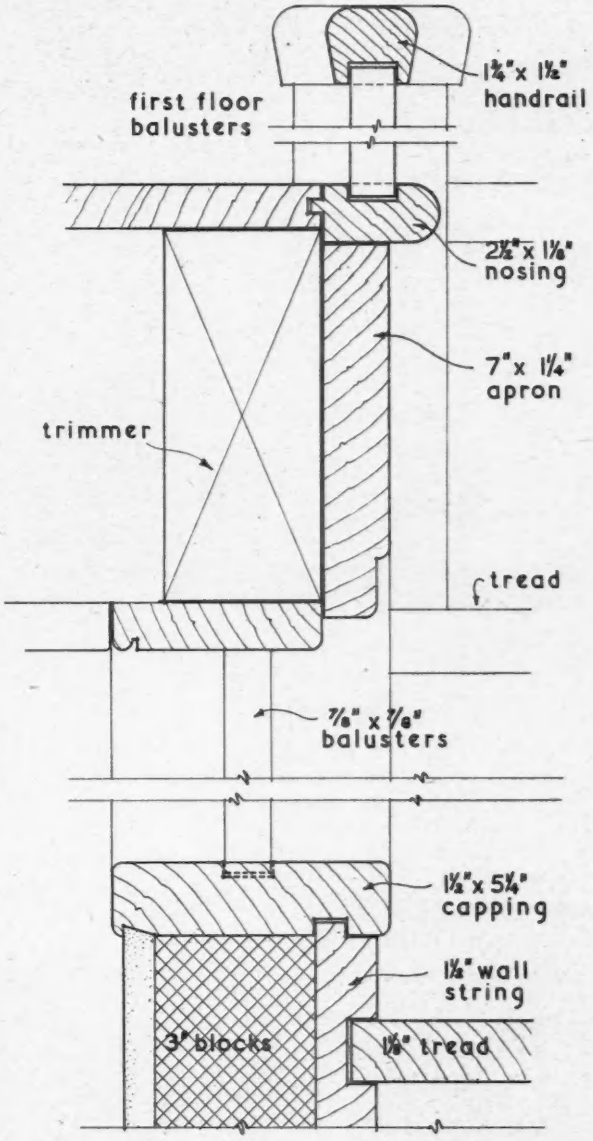


Seen on left is the dining recess, lit by bulkhead light in ceiling. The hatch opens to the kitchen.

First-floor landing. Curtains are red and blue check, and paintwork and distemper broken white. The stairs and balustrade are in West African Doussie.



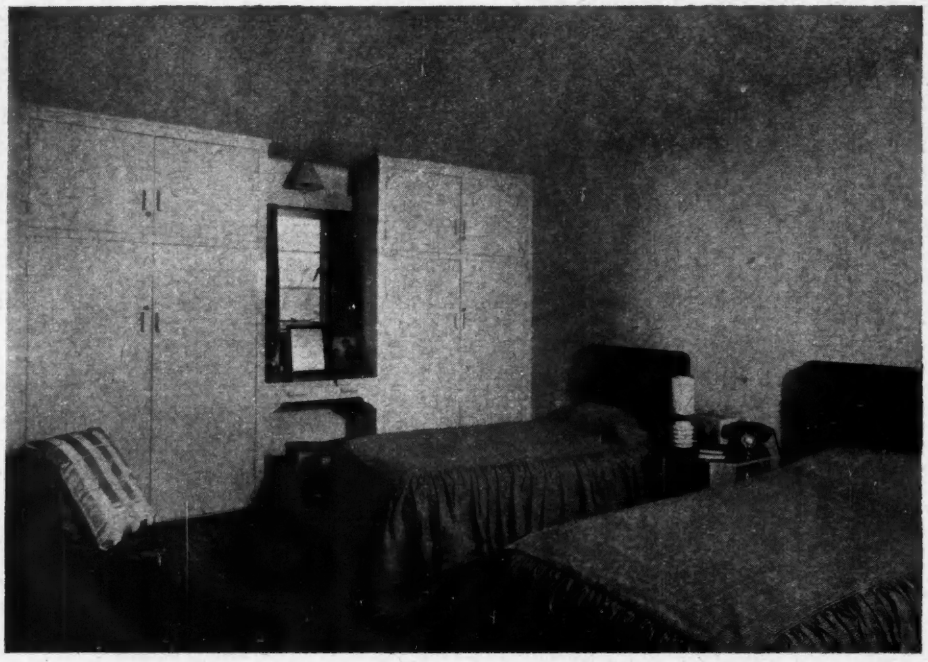
Hall and staircase foot.



Details of staircase construction.

cills are of 2 in. local briquettes on edge. Windows are metal, in wood casements. Walls are plastered and distempered, and all paintwork is broken white; the kitchen cabinets are painted Wilton blue. Red quarries are used for kitchen floor. Rooms upstairs are boarded and close carpeted except for the bathroom; this, and the whole of the ground floor, is cork tiled, splendidly laid by the subcontractor; the bathroom is half-tiled with Carter's egg-shell blue tiles. Sanitary fittings are primrose.

By arrangement, the architect took the job up to working drawing stage, and supervision was thereafter given by Mr. Edward Forster, B.A., F.R.I.B.A., who also detailed the staircase (in West African Doussie) and the fireplace and bookcase; in these West African Meranti was employed. The bricks used for the infilling of the fireplace are the same as used on the window cills; the hearth is laid in red quarries, polished. Plumbing internally is copper, hot water being supplied by an Ideal boiler, the lagged hotwater tank being fitted with an immersion heater. The whole work owed much to the co-operative enthusiasm of the builders, Messrs. Eames and Calverley, Ltd., of Ringmer, and their men, and to the skill of the foreman, Mr. Dick Stone, whose grandfather worked on the construction of the



The owners' bedroom. Walls are palest pink, carpet turquoise, bedspreads grey checked gingham, head-boards bordeaux red, and paintwork broken white. The recess between the built-in cupboards forms a dressing-table.

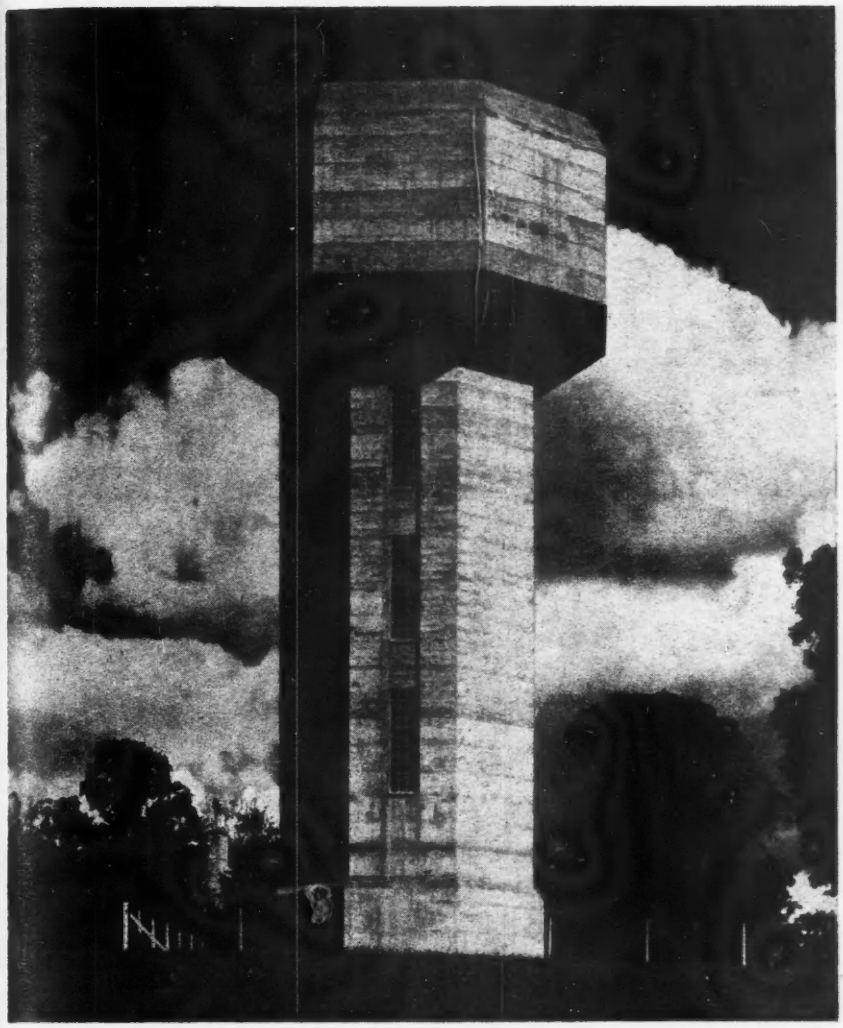
Balcombe Viaduct and whose son was a bricklayer on the job. The quantity surveyor was Mr. Francis J. Amott, A.R.I.B.A., F.R.I.C.S. The house is for Mr. Ian Leslie, J.P., Hon.A.R.I.B.A., and Mrs. Leslie.

Subcontractors and suppliers were :

Stock facing bricks, the Freshfield Lane Brickworks, Danehill, Sussex ; internal Fletton bricks, London Brick Co., Ltd. ; metal windows, Rustproof Metal Window Co., Ltd. ; roof tiling with Colliers' hand-made sandfaced red tiles, Hall and Co., Ltd., Hove ; gas supply, the South-Eastern Gas Board ; electrical internal wiring and mains, South-Eastern Electricity Board ; sanitary goods, Alfred Goslett and Co., Ltd., W.C.2 ; glazed wall tiles (supply only), Carter and Co. (London), Ltd. ; electrical fittings, Troughton and Young (Lighting), Ltd., S.W.1 ; internal flush doors, Gliksten Doors, Ltd. ; ironmongery, Yannedis, Ltd., W.C.1. ; cork flooring, B. D. P. Floors, Ltd., Harrow ; kitchen-cabinet fittings, John Sadd and Sons, Ltd., Maldon ; rainwater goods, Broads Manufacturing Co., Ltd. ; telephones, Post Office Telephones (Brighton area) ; paints, I.C.I. (Dulux).

" PIPPINS " : A HOUSE AT BALCOMBE, SUSSEX

The kitchen, looking through hatch to dining recess. Work-tops are covered with Formica, and paintwork other than walls is Wilton blue. Floors are red quarries.



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ADDISCOMBE 1264

CHURCH ROOFING MATERIALS

1. Lead

HISTORY

LEAD was one of the earliest metals known to man, and has been in use for some 7,000 years.[1] The English lead mines worked by the Romans are well known, and sheet lead has been used in this country for roofing since Saxon times.

Lead was used extensively for roofing churches in the medieval period, especially in the late fourteenth and in the fifteenth centuries, when the open timber roofs of flat pitch were developed. Many examples of medieval lead roofs exist to-day [2] though most of the lead has been recast since it was originally laid. In the seventeenth and eighteenth centuries lead was commonly used and among examples of original work of this period, still in excellent condition, are the roofs of St. Paul's Cathedral.[3]

Until the invention of the milling process at the end of the seventeenth century the lead used on buildings was cast. This cast lead was of considerable thickness—usually far in excess of the "weights" [4] used for buildings to-day. The early milled lead was rolled too thin and was used in sheets of too large a size; consequently it failed,[5] and it was not until the nineteenth century that milled lead came into common use.

In the earliest periods, lead was only used on important buildings because of its cost and the difficulties of transport. It was first used in districts close to the mines [6] and later adopted in other areas where natural stone slates or tiles were not readily available. Lead was frequently used when roofs originally thatched or shingled were renewed at a later date.

ÆSTHETICS

It is generally agreed that the silver grey colour of a lead roof is an important part of the general composition. The pleasing appearance of old lead is often mistakenly assumed to be due to the presence of a considerable amount of silver. Much medieval and Renaissance lead, however, was desilverized during the smelting process, and the chemical analysis of samples of old lead proves that the silver content (about .006 per cent.) is negligible [7]—certainly not enough to warrant the expense of extraction from the roof sheeting by smelting. The whitish pigmentation formed on old lead is due to an insoluble lead carbonate which forms on all lead on exposure to the atmosphere. This will not stain or harm surrounding masonry.

Though there appears to be little metallurgical difference between cast and milled lead, there is some difference in texture and hence in the appearance. For this reason and also because it ensures the continuance of traditional methods, which are so desirable in dealing with an ancient building, it is preferable that an old cast-lead roof should be replaced with cast rather than by milled lead or another material, especially on roofs of steep pitch which are visible from the ground.

SUITABILITY

Except for its tendency to "creep" (that is, to expand downwards on a slope, but not to return up the slope to its original position on contraction), lead is almost an ideal material for roofing and gutters. It is easily "worked" into any shape, easily jointed and fixed, and is generally readily available.

Lead is most suitable for use on roofs of flat pitch where there will be little tendency to "creep," but, if properly laid, can be used successfully on steep roofs. Medieval spires covered with the original lead are still in existence.[8] Lead will stand up to exposure in all normal polluted atmospheres without risk of deterioration.

It may be noted that while lead is commonly considered a heavy roofing material, in the thicknesses normally used (7 lb. to 9 lb. a sq. ft.) it is lighter than most slates or tiles and is about the same weight as thatch or asphalt.

DURABILITY

Lead roofs still exist which have not been recast for about 400 years, but it is rare to find examples dating from before the middle of the eighteenth century.

Lead is one of the most corrosion resistant metals and there is little risk of its being attacked by polluted atmospheres—it is the metal most commonly used in chemical works and is not affected by sulphurous fumes from smoke nor by the fumes from coke-burning stoves inside buildings. It is unaffected by sea atmospheres.

The normal expectation of life for a newly laid roof of cast lead is at least 200 years, and for milled lead between 100 and 200 years.[9]

The lasting quality of lead, as with other sheet metal roofing materials, is largely dependent on proper methods of fixing (see later notes on Laying) and on the degree of exposure to the sun.

PRECAUTIONS

(*a*) *Contact with timber.*—Lead is liable to corrosion when in direct contact with timber, especially when this is unseasoned or damp. Oak and teak may cause appreciable corrosion, pitch pine less, deal and elm still less. The use of unseasoned timber under lead should be avoided and if this is not possible the wood and lead should be separated by a bitumen-lined building paper.

(*b*) *Contact with other metals.*—The risk of lead corroding when in contact with other metals is small, though wherever possible lead should be prevented from touching iron gutters, etc., where electrolytic action may eat away the ironwork.

A similar reaction may take place in certain circumstances between lead and aluminium. Copper may be used in conjunction with lead, as the risk of electrolytic action is small.

A simple precaution is to treat the metal with a thick coat of bituminous paint, taking care to leave the separate parts free to move independently.

(*c*) *Contact with lime and cement.*—Free lime in a damp condition is a common cause of serious decay in leadwork where this is in contact with walls. The free lime is most frequently liberated from Portland cement on setting, and only to a lesser extent from straight lime mortar. The underside of sheets of lead in contact with walls can be protected by a coat of bituminous paint or a layer of building paper. For pointing flashings, a non-fatty lime mortar or weak cement/lime mortar should be used [10]—there is little risk of corrosion as the bulk of mortar is small and carbonation takes place rapidly.

(*d*) *Insect attack.*—Where the death-watch beetle is present in the roof and the exit holes of the grubs ready for flight face in the direction of the roof covering, it will eat its way through the lead to reach the open air. Thus the roof may, if the beetles are numerous, become perforated in time with numbers of small flight holes which will admit water.[11]

(*e*) *Selective attack on gutters.*—It has been observed that leadwork in gutters becomes seriously worn by water dripping off slated or tiled roofs. The defects usually appear in the form of whitish spots, seemingly due to residual drips, rather than to the water running off the roof during rainfall. So far, no complete explanation has been found for this, though it appears to be due to the lead dissolving in soft rainwater or rainwater made acid by impurities dissolved or in suspension derived from the slates or tiles themselves, or from lichen or other bacteriological agencies.[12]

(*f*) *Mechanical failure.*—Lead has a low mechanical strength compared with other metals and in consequence is liable to crack or split when "stretched" by progressive "creep." The "fatigue resistance" of lead is low and this has to be taken into account in its method of use. If subjected to repeated applications of stress (such as reverse bending or vibration) the material will become "fatigued" and fail by cracking.

NOTES ON THE MAINTENANCE OF LEAD ROOFS

Lead when it becomes worn or split can be patched and when it is beyond repair can be recast and relaid at considerably less cost than completely renewing the roof.

Repairs to leadwork should be done by burning (or welding) and not by soldering, although the latter method is that normally employed by plumbers. Solder is a much harder material than lead and has a different coefficient of expansion. Consequently when subjected to variations of temperature the solder and the lead behave differently and further cracks will eventually develop at an already weak point—the lead splitting away from the solder.

Where sheets have split along their sides at the turn up to rolls, a repair can be made by cutting the sheet length-

ways and burning on a fresh strip of lead to reform the roll. On aisle roofs where sheets have slipped away from a clerestory wall, it is not always necessary to strip them. A repair can be effected by securing the head of the sheet with a batten screwed through to the substructure and covering the gap up to the wall with a new apron piece (see Fig. 10).

Lead burning is a very simple process and is becoming universally understood by plumbers. The Lead Industries Development Council issues a booklet, "Practical Notes on Lead-burning for Plumbers"—(Bulletin No. 118), which gives a simple and complete explanation of the whole process.

In carrying out repairs by lead burning, care must be taken that the roof boarding is not charred. A wise precaution is to slip a small piece of asbestos sheeting under the area being repaired, where this is practical.

Where cast lead is to be replaced, it should be recast on or near the site under the supervision of the architect and by an experienced and reputable craftsman. Not only does this permit small areas of the roofing being stripped at a time and being covered in again quickly, but it has the advantages of preserving an old craft and tradition, arousing local interest (with consequent additional appeal for funds), and retaining all the old material without fear of loss.

On no account should lead roofs be repaired by the application of bituminous compounds. This may be a quick and cheap method of stopping leaks for the time being, but makes a proper repair by lead burning (or even by soldering) difficult.

TECHNICAL NOTES

Craftsmanship

As with other sheet roofing materials, the efficiency of lead roofing is largely dependent upon the craftsmanship of the workman. It is essential that only properly skilled plumbers be employed both in laying leadwork and in carrying out maintenance repairs.

In repair works, especially, it is important to avoid patching by "odd-job-men" and "jacks of all trades," whose methods are to make bodged soldered joints or to apply liberal coats of some bituminous compound.

The best way to ensure competent craftsmanship is to insist on the work being carried out by registered plumbers only. No man can become a registered plumber unless he has attained an adequate standard of craftsmanship. The Worshipful Company of Plumbers maintain a register of qualified plumbers who are issued annually with certificates of competence. Work executed by registered plumbers can be marked "Work in accordance with the Worshipful Company of Plumbers' system," where each section between joints is marked by a label bearing the executing plumber's registered number. Copper discs for this purpose, and further information may be obtained from the General Council for the National Registration of Plumbers, Argyle House, 29-31, Euston-road, London, N.W.1.

Cast and Milled Lead

There is some difference in the appearance of cast and milled lead, due to variation in the texture of the metal. For this reason, and also because it ensures the continuance of traditional methods, it is desirable that an old cast-lead roof be replaced with cast rather than milled lead, or any other metal. (This applies especially to roofs which are visible from the ground.)

It is claimed by architects and plumbers with much experience of the repair of old buildings that cast lead lasts longer than milled lead, though there appears to be no scientific explanation for this.

Cast lead is often less uniform than milled lead—its quality depending entirely on the craftsmanship of the man who casts it, but skilled craftsmen are still available in various parts of the country who can undertake re-casting. Milled lead having been worked by machinery is more uniform than cast and is slightly easier to work round awkward corners. Cast lead "creeps" less than milled lead and is the more suitable of the two on sloping roofs.

It is usually cheaper to recast old lead than to substitute new milled lead, especially if the casting is done on the site. In recasting, approximately 10 per cent. of new pig lead has to be added to make up losses.

Relaying Lead Roofs

The substructure.—Lead is usually laid over boarding, which in old buildings is generally of oak. A good practice is to lay new well-seasoned fir boarding on top of the old oak (which should be retained for appearance) and this is essential where the old boards are laid with gaps between. For true flats, the boards are best laid diagonally or with the grain running in the direction of the fall, to minimise the effect of warping.[13] On steep roofs, the medieval practice of laying the boards with gaps between has some advantages. All nail heads must be driven well below the surface and all sharp corners must be trimmed off and rounded to prevent the lead being perforated.

Underlay.—An underlay of stout building paper should be laid beneath the lead if the boarding is not of seasoned fir or if it is laid on concrete, to prevent the possibility of corrosion. Felt should not be used as it may become saturated with condensation and encourage both corrosion of the lead and rot in the timber. In no case should a felt or paper faced with bitumen be used, as the bitumen will be softened by heat and adhere to the lead, so preventing free movement.

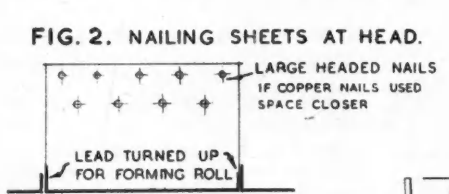
Insulation and ventilation.—It is important to provide adequate ventilation to the boarding and other timbers in the substructure, and where new boarding is laid over an old oak lining this is best achieved by counter-battening between the two layers. Where the old boards are laid as slats with gaps between this is not so important.

There is a growing demand for thermal insulation in roofs, but great care must be exercised if the insulating material is not to nullify means of ventilation.

Size of sheets.—Cast lead is usually made on a sand table some 10 ft. by 5 ft. 6 in. to 6 ft., to produce sheets approximately 8 ft. by 2 ft. 9 in. to 3 ft. Milled lead is made in sheets from 15 ft. to 40 ft. long and 7 ft. or 8 ft. in width.

Any one piece of lead sheet in roofs of flat pitch or in gutters should not exceed

FIG. 2. NAILING SHEETS AT HEAD.



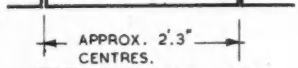
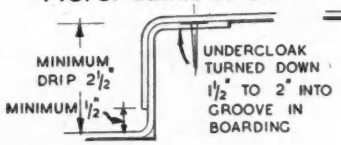


FIG. 1. SPACING OF ROLLS

FIG. 3. DETAIL OF DRIP



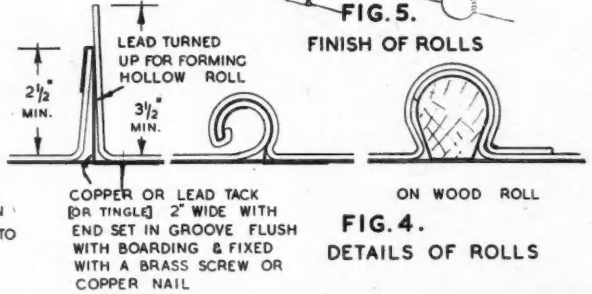

LEAD TURNED UP FOR FORMING HOLLOW ROLL
2½" MIN.
3½" MIN.
COPPER OR LEAD TACK [OR TINGLE] 2" WIDE WITH END SET IN GROOVE FLUSH WITH BOARDING & FIXED WITH A BRASS SCREW OR COPPER NAIL
ON WOOD ROLL

FIG. 4. DETAILS OF ROLLS

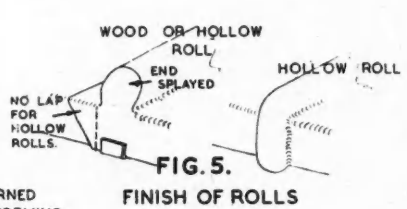


FIG. 5. FINISH OF ROLLS

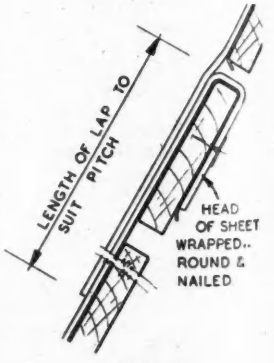


FIG. 6.

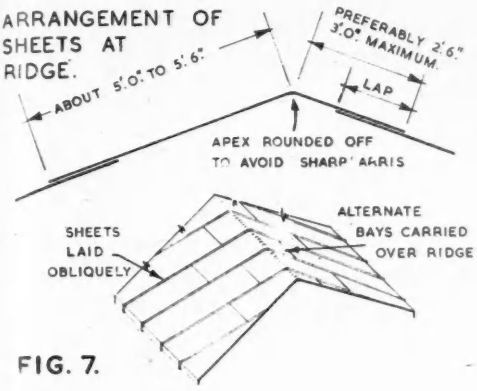
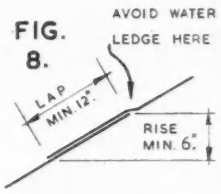

ARRANGEMENT OF SHEETS AT RIDGE.
ABOUT 5'.0" TO 5'.6"
PREFERABLY 2'.6" 3'.0" MAXIMUM
LAP
APEX ROUNDED OFF TO AVOID SHARP ARRIS
SHEETS LAID OBLIQUELY
ALTERNATE BAYS CARRIED OVER RIDGE

FIG. 7.



LENGTH OF LAP.
15° PITCH : 23".
20° PITCH : 18".
25° PITCH : 14".
30° PITCH : 12".

24 sq. ft. in area, and not more than 10 ft. in length. A convenient bay size is to use sheets 8 ft. long and 2 ft. 9 in. wide, giving a general dimension between the centres of the rolls of 2 ft. 3 in. (see Fig. 1).

For roofs of steeper pitch (say, 50 degrees to 70 degrees) the size of the sheets should be reduced to 6 ft. by 1 ft. 9 in., and these should be laid obliquely so that some support is obtained from the rolls (see sketch, Fig. 7) though this arrangement may not always be advisable because of the appearance.

Laps and falls.—Flat roofs should have a minimum fall of 1½ in. in 10 ft. with "drips" at the joint between the top of one sheet and the foot of another. These drips should be at least 2½ in. in depth with the bottom edge turned down 2 in. vertically (see Fig. 3).

For slopes of 15 degrees or steeper, drips may be omitted, and the two sheets lapped to give a cover of at least 6 in. measured vertically, or 12 in. along the slope (see Fig. 8.)

Fixings.—The lead should be nailed with large flat-headed nails. The old nails were always of wrought iron and are usually found to be sound (although somewhat rusted). Copper nails, commonly used nowadays, tend to be "greasy" and to "draw" easily with temperature changes. Large flat-headed sheradized iron nails may be used, as present-day iron nails (made from steel or wire) are more liable to rust than the old wrought-iron ones.

The sheets should be fixed at the head with a double row of nails about 3 in. apart (see Fig. 2), and the sides of the sheets secured with tingles at not more than 2 ft. centres. These tingles may either be strips of lead, or of 24-gauge copper sheet 2 in. wide (see Fig. 4). The bottom end of the tingles should be let flush into the boarding and securely nailed or screwed down. These are then turned in with the rolls and will hold the sheets secure.

A good method of fixing the head of sheets so that less reliance is placed on the nails, is to form a groove or gap in the boarding and to wrap the lead round this as shown in Fig. 6.[14]

Lead or copper clips (similar to the tingles) should be fixed at the centre of each sheet to support the bottom edge of the lowest sheet. Elsewhere they are optional, but should be provided where roofs are exposed to severe wind conditions.

Rolls.—Hollow rolls should be used for preference on pitched roofs,[15] but on "flats" of minimum pitch, and in other positions where there is likely to be much traffic, wood rolls may be used. Old roofs were almost invariably laid with hollow rolls, but the use of the wood roll became the normal practice in the nineteenth century. The wood rolls seem to be particularly susceptible to rot and beetle attack and should not be used unless treated with a suitable preservative.

It is sometimes claimed that the wood rolls give more support to the sheets, but the practice of nailing the lead at intervals restricts freedom of movement and on roofs of moderate or steep pitch it is very common to find that the sheets have torn away. The clips or tingles in hollow rolls, especially when of copper, have a good grip without the risk of damaging the sheets.

On true "flats" where wood rolls may be used it is not necessary to nail the edge of the sheets, and a typical roll detail is shown in Fig. 4.[16]

Ridges.—The most satisfactory treatment of ridges is to carry the lead sheets over and well down the opposite slope (see Fig. 7), alternate sheets being staggered. The hollow rolls are bent over the ridge with pieces of scrap lead folded inside to prevent bad distortion. Where the sheets are laid obliquely, the rolls should follow over and down the other side, as shown in Fig. 7.

Abutments.—Abutments at the sides of roofs can be treated in the normal manner with a 6-in. upstand against the wall, covered by an apron or stepped flashing. Aprons and flashings should not exceed 1 ft. in length and should be lapped 4 in. at junctions. They should be turned into the joint or groove in the wall at least ¾ in. and wedged with lead wedges at intervals of 18 in. to 24 in. The bottom edge should be held down at 24 in. to 30 in. intervals with 1½ in. wide lead clips.

At the head of slopes (such as the abutment of an aisle roof with the clerestory wall) a 4 in. by 3 in. splayed wood fillet should be fixed to receive the head of the sheet and to take the cover flashing, as shown in Fig. 9.

It is most important that a good level bed be formed for the tuck-in of aprons and flashings, and in rubble or flint walls this can be done by setting a course of tile or slate slips into the rough cut chase and filling in the irregular spaces above with small pieces of the same material (see Fig. 10.)

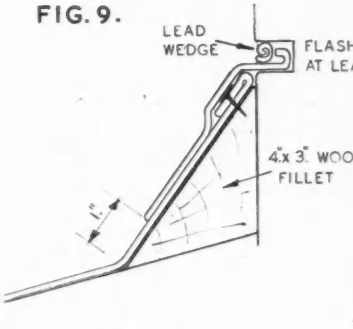
Cover flashings and aprons where turned into the walling should be pointed up with mortar.

Vertical Faces and Steep Pitched Roofs

On vertical faces and very steep-pitched roofs of over 70 degrees (such as spires) some additional fixings are necessary. The most satisfactory treatment is to employ rolls arranged diagonally to form a herring-bone pattern, as was done in so many medieval spires. The vertical height between rolls should not be more than 2 ft. 6 in., and bays should be kept to about 5 ft. in length. The treatment of the rolls is as described above.

On turrets or domes it is sometimes necessary to employ wide flat sheets of lead and these require some form of intermediate fixing. This may either be done by means of lead-burned "dots" or by secret tacks "burnt" on to the back of the sheet. Fixings should be provided not more than 2 ft. 6 in. apart in any direction, but provision must be made for

FIG. 9.



DETAILS AT AN ABUTMENT

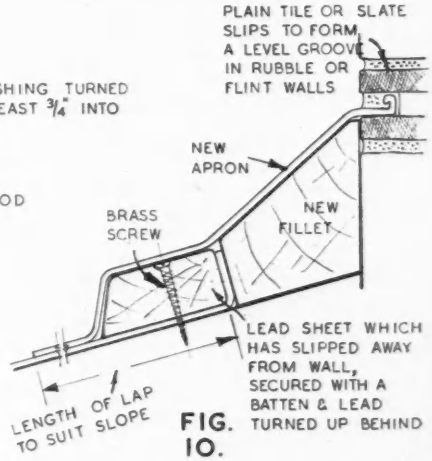
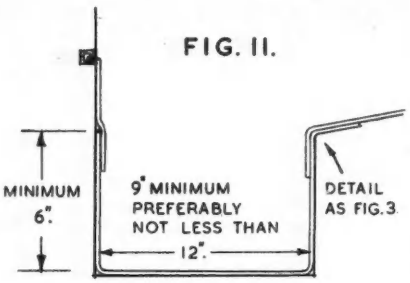

PLAIN TILE OR SLATE SLIPS TO FORM A LEVEL GROOVE IN RUBBLE OR FLINT WALLS
NEW APRON
NEW FILLET
BRASS SCREW
LEAD SHEET WHICH HAS SLIPPED AWAY FROM WALL, SECURED WITH A BATTEN & LEAD TURNED UP BEHIND
LENGTH OF LAP TO SUIT SLOPE

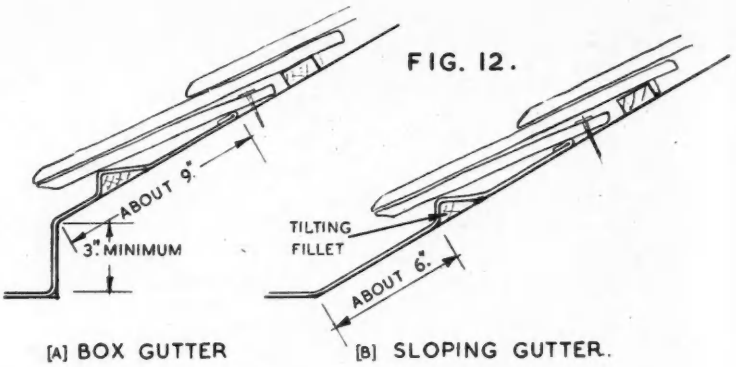
FIG. 10.

FIG. 11.



PARAPET GUTTER

FIG. 12.



[A] BOX GUTTER [B] SLOPING GUTTER.

movement. Between sheets, edge joints which run with the fall may be made by means of double welts, which can be secured to the substructure with copper tingles in the same manner as hollow rolls.

The upper edges of each bay should be turned over the lay board and nailed as shown in Fig. 6.

Parapet Gutters and Tapered Gutters

The technique of laying lead in box and tapered gutters is the same as that for roofs, the sheet sizes being limited and joints being formed in the manner already described.

Box gutters.—These should be at least 6 in. deep at the highest point and at least 9 in. (preferably not less than 12 in.) in width for lead roofs; but for tiled or slated roofs where the lead is carried up the roof slope, the depth may be reduced to not less than 3 in. (see Figs. 11 and 12a).

Drips 2½ in. deep should be formed between the various sheets and the abutments to walls covered with cover flashings, as previously described (see Figs. 3 and 11).

If gutters fall in two directions, the joint at the highest point may be formed with a roll.

Tapered gutters.—In tapered gutters, either against parapets or as valleys between two roof slopes, the roof joins straight into the gutter. In the case of lead flats, the joint is formed with a 2½-in. drip; in lead pitched roofs, a lapped joint is formed as already described for the junction between sheets; and for tiled or slated roofs, the detail is as shown in Fig. 11b. Tapered gutters should be not less than 9 in. wide at the lowest point, and 2½ in. drips must be formed at the joints between each length of lead. In wide gutters it may be necessary to form a centre roll to make up the necessary width.

Duck boards or snow boards.—Duck boards or snow boards are useful in gutters to prevent them becoming choked with frozen snow, and they allow the water from melting snow on the roofs to get away without backing up and finding its way into the roof through the various joints. To be effective, they must be maintained in excellent condition, as many roof leakages are due to rotten or defective snow boards blocking the outlets or piercing the leadwork.

The boards should be made up in convenient lengths to suit the spacing of drips in the gutters; should be made of a suitable hardwood such as elm or cedar; and be so designed that the feet neither obstruct the flow of the water in the gutter, nor are liable to puncture the leadwork due to the weight of persons walking on them.

Outlets.—The simplest and best method of forming outlets from gutters is to carry the sole of the gutter out through the parapet wall as a chute, to discharge over a hopper head. This detail can be adopted where chutes are employed to discharge the water instead of down pipes.

In old buildings, it is common to find the outlet is by means of a cesspool (or catch-pit). This can be formed either by bossing out a sheet of lead to form the box shape required, or by joining up a sheet at the angles by lead-burning. Solder should never be used for this purpose.

Cesspools should not be less than 9 in. square and must be at least 6 in. deep. Outlet pipes should be at least 4 in. in diameter, and formed of lead pipe, jointed to the bottom of the cesspool by lead burning. The outlet must be protected with a grating to prevent the pipe becoming choked with leaves, etc. Wherever possible, cesspools with pipe outlets should be dispensed with, as they are a constant source of trouble, continually becoming stopped up. Where their use is unavoidable, a large overflow should be formed through the parapet with the mouth below the level of the drip into the cesspool. Similarly, an overflow should be provided near the top of hopper heads. Where possible, at least two outlets should be provided to each gutter.

Theoretically, with an average nave roof approximately 50 ft. long and 20 ft. wide, one 3 in. diameter down pipe should be sufficient to carry away the water from each side, even during a heavy downpour, but it is strongly recommended that no down pipe less than 4 in. in diameter be used.

New Roofs

The descriptions and details given above apply equally to entirely new roofs as to the relaying of old roofs.

WEIGHTS OF LEAD FOR VARIOUS PURPOSES

		Cast Lead	*Milled Lead*
For roofing generally		7 to 8 lb.	7 lb.
Gutters		8 lb.*	7 lb.*
Aprons and flashings		6 lb.	5 to 6 lb.
Rainwater pipes and hopper heads		10 lb.	—
Lead slates (or sleeves for pipes passing through tiled or slated roofs)		—	6 lb.
Chimney gutters	In slated or tiled roofs	—	6 lb.
Soakers		—	4 lb.
Valley gutters		—	6 lb.
Hip and ridge saddles		7 lb.	6 lb.

*Where lead gutters are used in conjunction with tiles or slates known to give trouble by spotting (see Note 12), it is advisable to increase the weight of lead sheet used to 9 lb. or more. However, in such cases it is probably better to use copper for the gutter lining.

BIBLIOGRAPHY

1 "The Repair of Ancient Buildings," by A. R. Powys (Chapter 7, "Roof Coverings").

2 "Old Churches and Modern Craftsmanship," by A. D. R. Caroe (Chapter 7, "Roof Coverings").

These both give a general description of the methods of repair for old buildings.

3 "The Plumber's Handbook."

4 "Practical Notes on Lead-burning for Plumbers."

These are both issued free by the Lead Industries Development Council, but it should be noted that some of the details shown and described in "The Plumber's Handbook" do not agree with the recommendations made in the foregoing article.

5 "English Leadwork, its Art and History," by Lawrence Weaver.

This gives descriptions of Renaissance and Medieval leadwork to domes and spires.

ACKNOWLEDGEMENTS

Acknowledgement is due for assistance and information provided by the following: The Ministry of Works, Ancient Monuments Department; The Department of Scientific and Industrial Research (Building Research Station and the National Physical Laboratory); The Institute of Metals; The Lead Industries Development Council; The Worshipful Company of Plumbers; The Council for the National Registration of Plumbers; Mr. A. D. Caroe, F.R.I.B.A.; Mr. Noel Heaton, B.Sc., F.C.S., Hon.A.R.I.B.A.; and Mr. Thomas McLachlan, A.C.G.F.C., F.R.I.C.

INFORMATION FOR TABULATION

	Cast lead.	*Milled lead*
Weight	707 lb. per cubic foot	709 lb. per cubic foot
Gauge or thickness normally used for roofing	7 to 8 lb. per square foot (= $\frac{5}{32}$ in. approx.)	7 lb. per square foot (= $\frac{1}{8}$ in. approx.)
Coefficient of linear expansion	0.0000163 per degree F. (or approx. $\frac{1}{16}$ in. in a 10 ft. length sheet for a 100 degrees F. rise in temperature).	
Melting point	621 degrees F., or 327.4 degrees C.	
Thermal insulation value (laid on 1 in. boarding) .496u	u = B.Th.U. per hour per degree F. for 1 square foot.	
British Standard Specification	For milled sheet lead No. 1178	
British Standard Code of Practice	None	

NOTES

[1] Lead was used in Egypt (7000–5000 B.C.) and was extensively used in ancient Greece. There is a lead figure in the British Museum attributed to the year 3800 B.C.

[2] Examples are:—

ST. NEOTS, Hunts., dated 1633, due for recasting 1930.

NORWICH CATHEDRAL, most lead recast between 1780 and 1820, but some (overdue for recasting) dated 1643, remains on the cloisters.

SHELTON, Norfolk, aisle roofs dated 1768 but recast 1940 (failed because sheets were too wide).

[2] The lead roofs at St. Paul's were laid about 1700, and, although minor repairs have been made from time to time, today substantially remain.

[4] Weights in regular use varied from 7 to 12 lb. according to the situation.

(The Dictionary of the Architectural Publication Society, in the article on lead, quotes weights of 9 or 10 lb. being specified as suitable for flats about the year 1735.)

[3] C. F. Innocent in "The Development of English Building Construction" quoting "The Arts connected with Building" states: "At Greenwich Hospital, which had been covered with milled lead, 'it rained in almost all over the Hospital' in the year 1700, from which it would appear that milled lead was used by Sir Christopher Wren. Parliament sent the master and wardens of the Plumbers' Company to view it, and they unanimously declared that milled lead was not fit to be used on buildings."

[6] The Roman lead mining areas were: (*a*) on the Mendips—where a large mining community was established, (*b*) Flintshire, (*c*) Derbyshire, (*d*) Yorkshire, (*e*) Shropshire.

[7] Roman lead was almost always desilverised (See S. E. Winbolt "Britain Under the Romans," Pelican edition, for description, p. 128-130, and Prof. Gowland in "Archaeologia"—LVII 402).

Mr. S. L. Brown, of the National Lead Company of New York, has given the following average results of the analysis of series of lead samples:—

	Percentages		
	Roman pipe	*13th century*	*Modern common lead*
Silver	0.00785	0.0068	0.0005
Arsenic	none	none	trace
Antimony	trace	0.009	0.0100
Tin	none	1.78	none
Bismuth	0.0328	trace	0.0800
Copper	0.0060	0.014	0.0006
Iron	0.0004	none	0.0015
Zinc	0.0003	none	trace
Total impurities ..	0.04735	1.8090	0.0926
Lead	99.95265	98.1902	99.9074
	100.00000	100.00000	100.00000

[8] Examples are:—

MUCH HADHAM, Herts—Lead has scratch date 1760 and has been refixed, so is at least 200 years old, probably 250-300 years old.

HARROW, Middx.—15th-century spire, repaired 1823.

ASHWELL, Herts.—14th-century spire retains some original leadwork encasing the octagon. The spire itself releaded 16th-17th century. Lower roof at base relaid 1902.

[9] Because the early milled lead roofs were badly laid, no example of more than about 100 years old is available for study.

[10] The mix of mortar used will depend on the nature of the walling.

[11] See article and photograph, St. Helen's, Bishopsgate, in "The Keystone," April, 1934, by A. N. Cathcart.

[12] The selective corrosion *or* erosion of lead in gutters due to drips from slate or tile roofs would appear to be due to either of the following factors or a combination of them, namely:—

(*a*) To the lead dissolving in soft rainwater (lead is slightly soluble in soft water).

(*b*) To the lead dissolving in rainwater made acid by "impurities" dissolved, or in suspension from the slates or tiles themselves; or from lichen or other bacteriological agencies. In this case, the whitish spots frequently observed may be due to freshly formed coatings of lead carbonate (formed by weak carbonic acid derived from carbon dioxide in the air, either directly in association with the metal, or more readily by first dissolving some of the lead in acid and then converting the salt by reaction with the carbonic acid).

(*c*) By erosion due to the constant dripping of residual water on to the same spot, probably assisted by the abrasive effect of minute gritty particles washed down from the roof.

[13] The Lead Industries Development Council recommends T. and G. boarding secret nailed, but it is considered that plain-edged boarding is better, as it permits a certain amount of ventilation between the boards, and if not cramped, is less likely to give trouble by warping if it expands with dampness in the atmosphere. However, T. and G. boarding should be used on "flats."

[14] This is a method adopted by Mr. John Harvey in re-laying the roofs of Winchester College.

[15] The Lead Industries Development Council recommends 4 in. and 4½ in. for the turn-up at the sides of the sheets for the formation of hollow rolls. The S.P.A.B. practice, found satisfactory during many years experience, is to use turn-ups of 2½ in. and 3½ in.

[16] A good ridge detail is that suggested by Mr. Caroe in his book "Old Churches and Modern Craftsmanship."

* The next article, on Copper Roofs, will follow next month.—ED.

A.A. SCHOOL

Annual Prize-giving

IN building we had come across a degree of shoddiness hitherto unknown, and it was in danger of being accepted as the standard of quality, said MR. MICHAEL PATTRICK, A.R.I.B.A., A.A.Dipl., principal of the A.A. School of Architecture, when he spoke about the work of the school at its annual prize-giving held at the Association's headquarters on July 11. Mr. A. R. F. Anderson, president of the Architectural Association, was in the chair.

Mr. Pattrick felt it was regrettable that so many of the few large buildings erected in recent years lacked architectural qualities, but cited the 1951 Exhibition as one of the exceptions. One of their first aims at the school, he said, was to get the students to think for themselves; to understand what designing was before getting down to actual design problems. He thought the teaching of thinking was more important than the teaching of fact, but he did not want to give the impression that because of this they were neglecting practical experience.

In his address to the students in which he formally opened the exhibition of school work, MR. HOWARD ROBERTSON, president of the R.I.B.A., gave his views on the prospects confronting them. "I do not feel very grim about it myself," he said.

While recognising that the scope for the architect in the field of private house building had diminished in the post-war era, Mr. Robertson pointed out that on the industrial side the field had widened. There were now many more architect-designed factories than in pre-war days. He also emphasised the increasing contribution of architects in the field of industrial design.

The prizes were presented by Mr. Robertson, and Mr. Tony Shepherd, chairman of the students' committee, proposed a vote of thanks to him. The following scholarships, grants and prizes were awarded:—

PRIZE LIST

FIRST YEAR: *Howard Colls travel scholarship, value* £40, K. R. Darby. *Year prizes of* £1 1*s. each*, D. E. Armstrong, K. R. Darby, B. Dewhurst, M. H. V. Jones, C. R. Lamb, C. J. Stokes, J. W. Toovey.

SECOND YEAR: *A.A. travel scholarship, value* £40, Miss A. Tomlinson. *Year prizes of* £1 1*s. each*, N. S. Brown, C. A. C. Glennie, H. G. Herbert, P. G. Hodgkinson, R. Karmi, J. H. Miller, C. J. Stevens.

THIRD YEAR: *Holloway scholarship (tenable in fourth and fifth years), value* £150, G. C. Collins. *A.A. travel scholarship, value* £40, N. R. Grimwade. *Year prizes of* £1 1*s. each*, B. G. Falk, N. R. Grimwade, R. C. Waters, E. M. Waterston, A. J. Wylson.

FOURTH YEAR: *Roland Wilmot Paul travel scholarship, value* £40, P. B. Whiteley. *R.I.B.A. Henry Jarvis scholarship for construction, value* £50, P. Matthews. *Year prizes of* £1. 1*s. each*, M. J. Blower, B. C. B. MacDonald, R. A. Maguire, P. Matthews, A. W. Mauduit, E. H. W. Priefert, G. F. Sheere, F. Watkins, P. B. Whiteley.

FIFTH YEAR: *Henry Florence travel scholarship, value* £50, C. P. Sainsbury. *Year prizes of* £1 1*s. each*, A. G. Derbyshire, Miss H. M. Jones, G. Spyer, F. J. Webb, C. P. Womersley, P. W. Crooke, J. H. W. Voelcker.

Scholarship awarded by Imperial Chemical Industries, Ltd., to a student in the fifth year for travel and study of decorative arts in Europe, to an approved programme, value £250, P. Prangnell.

Scholarship awarded by the Building Centre to a student in the fourth or fifth year for research into use of building materials, to an approved programme, value £100, P. B. Whiteley.

Bratt Colbran post-graduate travel scholarship, value £200, B. C. Cassidy, J. E. Dennys, N. H. Farrington.

Scholarship awarded by the Architects' Registration Council of the United Kingdom, B. J. Roberts.

National Federation of Clay Industries scholarship, value £40 each, S. C. Crosse, R. W. Jones.

Walpamur Colour Prize, value £15, J Burkett, R. W. Jones, G. F. Sheere.

Alec Stanhope Forbes prize for the best colour work during the session—books, value £5, P. A. Peretti.

Measured Drawings prize, value £20, J. B. Morton.

Royal West of England Academy School of Architecture, Bristol. Prize in Design, value £5 5s., Denis Fleming.

Medal presented annually by Le Société des Architectes Diplomes par le Gouvernement, Paris, to the best Diploma student of the session, G. Spyer.

R.I.B.A.

Notes from Council Minutes

FOLLOWING are notes from the minutes of the Council meeting held on July 1:

The Honorary Fellowship.—The Marquess of Salisbury, Earl Alexander of Tunis and Lord de L'Isle and Dudley have accepted the Council's nomination for election as Honorary Fellows.

Apointments: (A) *The British School at Rome: R.I.B.A. Representative.* — Mr. Anthony M. Chitty (F) in place of Mr. Martin S. Briggs (F). The other representative is Mr. Kenneth M. B. Cross (F).

(B) *National House-Builders' Registration Council: R.I.B.A. Representative.* — Mr. Kenneth J. Peacock (F) re-appointed for a further term of three years. The other two representatives are Mr. C. H. James (F) and Mr. A. W. Kenyon (F).

(C) *B.S.I. Committee SAB/8: Chemical Sanitary Appliances.*—Mr. D. E. Nightingale (F).

Exhibitions: The Council approved the recommendation of the public relations committee that the following exhibitions should be held in the R.I.B.A. building: exhibition of Mural Painting, arranged by the Society of Mural Painters, during April, 1953; exhibition of Architectural Photography, arranged jointly by the R.I.B.A. and the Royal Photographic Society to mark the centenary of that society, in September, 1953.

Research into Hospital Planning and Construction: On the recommendation of the hospitals committee, it was agreed to ask the Minister of Health to receive representatives of the Royal Institute in company with representatives of the Nuffield Provincial Hospitals Trust to discuss the setting up of an independent research body on hospital building.

Alteration to Rules: The Council approved an alteration to Rule No. 9 of the Federation of Malaya Society of Architects, designed to bring membership of that Society into conformity with the provisions of the newly-passed Architects' Registration Ordinance in the Federation.

Paint Colour Ranges: The Council considered a report of the science committee on discussions which had been held with the Paint Industry Colour Ranges Committee in co-operation with the British Colour Council. The following were appointed to serve on a committee to go into the question of preparing a fully co-ordinated paint colour range: Mr. W. A. Allen (A), Mr. C. J. Epril (F), Mr. S. Kadleigh (A), Dr. J. L. Martin (F), Mr. S. Rowland Pierce (F) and the Hon. Godfrey Samuel (F).

Students: 196 Probationers were elected as Students.

New Window for Temple Church

After 18 months' work a new east window for the Temple Church has been completed and will be installed in September. The window, which is 21 ft. high and has three lights, has been designed by Mr. Carl Edward and made by Messrs. James Powell and Sons, of Wealdstone. More than 15,000 pieces of stained glass have been fitted into a mosaic representing "The Law and the Order of the Temple." The Worshipful Company of Glaziers and Painters of Glass is presenting the window.

POPULATION OF THE CITY

An Inquiry Proposed

THE effect of the decrease in the resident population of the City of London is to be the subject of investigation at Guildhall, in consequence of a motion passed at the meeting on July 10 of the Court of Common Council.

Calling on the public health committee to make the inquiry and suggest a policy, CAPTAIN ALFRED INSTONE, who proposed the motion, said that at the last census there were about 11,000 residents. To-day they numbered fewer than 4,000. Unless there were some revision of voting qualification it was only a matter of time before the Common Council would represent nobody but itself. Without residents the City would be an inhuman desert. Market workers, porters, journalists, Post Office employees, clergymen and policemen needed to live near their work and the high cost of travel was making that more necessary. The City needed hostels. Was the City to become a place of car parks for day workers only?

MR. PAUL PAGET, L.R.I.B.A., seconding the motion, said that the City would be happier if it included its quota of residents. Contending that the aims of those who sought to provide housing in the City had been set too high, he said that the problem should be tackled from small beginnings and an attempt made gradually to break the continued evacuation of the City.

THE HOUSING DRIVE

Some Local Authorities Hindering Progress

SPEAKING at the half-yearly meeting of the Northern Counties' Federation of Building Trades Employers at Saltburn, on Tuesday, MR. J. IAN ROBERTSON, the National president, said: "The efforts of the Government and the building industry to reach the target of 300,000 houses a year as soon as possible are being seriously handicapped by the attitude of many local authorities, particularly in the north. The Minister of Housing has made it clear that local authorities may allow up to one half of their total allocation of houses to be built privately, without prejudice to their own municipal programmes for flats and houses to let. But a number of authorities are deliberately hindering the Government's housing policy by continuing to refuse all applications for licences. In some areas not one private licence has been issued since 1945.

"The public should be told that the rate at which house-building proceeds in these areas is entirely in the hands of the local authorities, and it is on them alone that the responsibility rests if the transfer of families from the waiting lists to new homes is slower than in other parts of the country where a more enlightened policy is being followed.

"I would warn these local authorities that if they persist in refusing private licences the Minister of Housing may be forced to consider whether the machinery for the control of housing licensing should not be modified."

War Damage Appointment

The War Damage Commission have appointed Mr. W. E. A. Bull, F.R.I.C.S., F.A.I., to be a Deputy-Commissioner. He will be concerned mainly with cases in and around London. Mr. Bull is principal of Messrs. Vigers and Co., of London, E.C.2.

ART GALLERIES AND MUSEUMS

Their Influence on Modern Design

"IF we want better appreciation of architecture and industrial design, we must have better architecture and industrial design," said SIR PHILIP HENDY, director of the National Gallery, when he read a paper on "Art Galleries and Museums and Their Influence," at the annual general meeting of the Council for Visual Education, held in London on June 27.

To think of a building only in terms of function was a confession of failure, and he thought that we still had to make buildings look as though they were used by human beings who had souls as well as bodies. Architecture, he said, had to be humanised all over again, as also had the industrial arts and the crafts.

The museum of fine arts could do a lot, he thought, to help students to produce better architecture and design.

As most works of art were conceived in loneliness, he doubted whether they could really be appreciated unless it was in an atmosphere of loneliness; and in this connection said he was amazed at the number of people who went right round the exhibition at the National Gallery in an hour and then wanted to know why there were not more pictures on show.

Most of our museums were overcrowded, and he said he would like to see greater use made of their powers to lend exhibits to other municipal authorities, so that a greater number of people would have the opportunity of seeing them.

With pictures it was possible to put them before a vast number of people by making good colour reproductions. If these were well made, he said, they could be a very tolerable reproduction of a picture, and he could see no objection to the criticism that the texture of a painting was lost in such reproductions.

He thought that museums could benefit the arts by bringing out a higher standard of criticism, and concluded by saying that good architecture, good industrial design and good craftsmanship would never appear by themselves.

Proposing a vote of thanks to Sir Philip Hendy, MR. O. P. MILNE said the great value of the council's work was not particularly in architecture, but in promoting the appreciation of design generally. A whole side of life was being left out of current education, he said; the love of beauty, the power to see beauty and the power to appreciate beauty. Some teaching had to be done.

LEAD THIEVING

L.C.C.'s Legislative Proposal

LONDON DEALERS in old metals or marine store dealers may in future have to keep records of their transactions and offer them for inspection by their local authority. It is one way effectively to trace the thieves who are causing a good deal of concern by stealing quantities of lead from buildings.

The general purposes committee of the London County Council has recommended that legislation should be promoted to require these dealers to be registered with the local authority and to keep records of their transactions for inspection.

Similar powers to those being sought have been widely adopted outside London and have proved useful to the police in tracing stolen metal and its receivers.

PEOPLE'S HOUSES AT EALING

Mr. Macmillan at London Ceremony

OPENING the first People's Houses of traditional type in the London area at Northolt Park Estate on July 9, MR. HAROLD MACMILLAN, Minister of Housing and Local Government, said:—

I have just had some striking evidence of the speed and goodwill with which the local authorities of this country are taking up the People's House. As you know, I give this name to any council house which saves 10 per cent. in vital building materials but which, through skilful design, maintains the room sizes which have been a feature of post-war council houses. In January this year just under a quarter of the three-bedroom council houses put out to approved tenders were 950 square feet or less in superficial area—that is to say about a quarter of these houses were People's Houses. For the month of May the figure was nearly 60 per cent. What a startling increase in four months!

We get 11 People's Houses where we would have got 10 of the others. That is why the People's House is going to play a big part in solving the housing problem. I consider it so important that I want to give the public every chance to judge the People's House for themselves. So I have arranged for an exhibition including a large-scale model to tour the country. It will be inaugurated at Maidstone by my Parliamentary Secretary on July 19.

CRICKET

Palladians v. Vitruvians

MR. PETER WINTON-LEWIS'S Palladians XI met and defeated by three wickets the Vitruvians XI on the Richmond Cricket Club's ground on July 10, after an exciting game played in beautiful weather. Scores:

VITRUVIANS

J. Boswell b. Woodley	1
R. Mudie b. Dowd	13
R. Dowson c. Rawlings b. Dowd	8
A. Boyd b. Woodley	17
F. H. C. Tatham c. Gasson b. Woodley	2
W. A. K. Faldo b. Dowd	0
G. Dunn b. Woodley	4
I. M. Leslie b. Gover	29
J. O'Neill b. Woodley	0
E. Chamberlain b. Dowd	23
J. Southwood not out	3
Extras	19
	119

Bowling: Woodley 5 for 40; Dowd 4 for 45; Gover 1 for 4.

PALLADIANS

Rawlings l.b.w. b. Dowson	12
Brayford b. Dowson	8
Roberts b. Dowson	4
Cadman b. Mudie	1
Telling c. Mudie b. Boyd	6
Woodley l.b.w. b. Mudie	28
Gasson b. Dowson	5
Gover st. Leslie b. Boswell	24
Winton-Lewis retired hurt	3
Dowd not out	10
Cory l.b.w. b. Tatham	12
Extras	23
	136

Bowling: Dowson 4 for 28; Mudie 2 for 33; Boyd 1 for 16; Tatham 1 for 0; Boswell 1 for 12.

Employment in Building

It is estimated that there was an increase of 9,000 in employment in building and contracting during May. The Ministry of Labour's summary gives the figures as 1,427,000 at the end of April this year and 1,436,000 at the end of May.

THE FUTURE OF OLD HOUSES

The Effects of Wartime Deterioration

WAR resulted in the destruction of 208,000 houses, with another 500,000 rendered uninhabitable or severely damaged, said MAJOR D. J. E. LAMB, chief housing inspector of Birmingham Corporation, when he read a paper on "The Future of Old Houses" at the annual regional housing and planning conference of the National and Town Planning Council held in London on June 26. Mr. P. L. Leigh-Breese, J.P., was in the chair.

"These are startling figures," said Major Lamb, "and, despite every effort in some areas to rebuild those destroyed and to repair those damaged, the effect on the present position is still serious. That aspect of war is known to everyone and is appreciated by councillors and M.P.s alike. What is not so fully appreciated is the present effect of the cessation of repair activity in 1939. The stoppage was almost absolute; resumption was impossible during the war and immediately after. Even in 1947 materials and labour were still so scarce that, economic factors apart, it was physically impossible for large-scale maintenance to be effected. As supplies eased in 1948 and 1949, costs rose, discouraging even philanthropic owners. The alarming truth is that at least two-thirds of the houses in the kingdom were left unpainted and without repair for a full 10 years or more." He continued:

Deterioration is an accelerating process. Double activities for 10 years would not fully cope with 10 years' neglect, and some of that neglect might have been, in fact was, critical. Houses which were regarded as borderline when large-scale clearance was in progress are, to-day, well below the previous line of demarcation, and those which were definitely earmarked for clearance are obviously approaching dissolution.

The Post-War Repair Problem

Once demobilisation was accomplished and supplies eased considerably it would have been reasonable to assume that repairs would be effected, either voluntarily by owners or under pressure by local authorities. In fact, a formidable set of obstacles was encountered. Costs had rocketed; rents had remained frozen. Ethical considerations apart, it proved manifestly impossible to carry out proper works of maintenance at an expense within the net income from controlled rents. Much space could be devoted to this point, but so many well authenticated examples have been quoted by professional and official bodies that it is probably sufficient to say that the author, in a lifetime of experience in this field, is satisfied that the cost of works of house repair is more than three times what it was in 1939, and that, in the case of a very substantial number of houses, the cost of necessary repairs would exceed 10 years' net rent yield.

It is only too clear that, whilst rents remain frozen as at present, it is not an economic proposition to maintain and repair a very large number of existing houses. The subject deserves full investigation, and that urgently, by a very carefully chosen Departmental Committee or even a Royal Commission.

There is one item of experience which cannot be stressed too much. Property owners are not all sharks. Sharks there are, and the law must be strong enough to deal with them, but property owners as a class are just an ordinary cross-section of the community, including many with high ideals and the proved will to do the best for tenants by maintaining their houses at the highest level economically possible.

The Physical Problem

The physical problems may be divided in the following way:— (a) Satisfactory houses, with proper amenities, insufficiently occupied; (b) Houses satisfactory by statutory standards, but unsuitable for full use in modern conditions by present-day families; (c) Houses satisfactory in type, but in need of repair; (d) Houses unsatisfactory in type but capable of improvement by relatively minor works; (e) Houses of obsolescent design, condemnable under the Housing Acts, but tolerable for a small number of years; (f) Houses which, if the shortage were overcome even in part, merit immediate condemnation; (g) Temporary or non-traditional houses which do not achieve proper standards.

In so far as all these problem houses fall below the standard of a sufficient and proper dwelling they indicate a need for houses other than that which arises from a mere numerical shortage. Against this, it is pointed out that with amendment and improvement in some cases, (a), (b), (c) and (d) would afford accommodation for many years once fluidity of movement was established.

One matter of importance is not sufficiently stressed—the effect of housing upon production. In the nation's economy, production depends on housing conditions far more than is realised. Bad housing conditions are reflected in the mentalities of the occupants of the houses, and it is not surprising that output in industry suffers. Better housing conditions encourage workers to give better results; new or improved houses provide incentives to work, especially where extra wages can be earned to provide for curtains, furniture, etc., that would be wasted in cramped or dilapidated conditions.

Repair Resources

Quite rightly, new housing is first priority after defence, but the intention, too often voiced, to direct labour wholesale from house repair to new building must be resisted by all who sincerely desire the best possible living conditions for the greatest possible number of people. Ultimately, new houses in sufficient numbers will bring about the desirable end, but meanwhile, to denude the repair force too much would result in a direct loss of existing houses at the lowest extreme of the scale, and avoidable distress to tenants of houses above that standard.

It is doubtful if there are any accurate figures available giving the size of the repair force. Whilst many very small firms do this type of work, larger firms do come in on occasion. In general, small house repair is a specialised job, often disagreeable, often dirty, and seldom attractive to a fully trained building craftsman.

New materials fall under the district and regional ceilings, but there are not yet signs of a marked shortage. It is probable that available resources are sufficient to enable repairs to a very large number of houses to be undertaken, provided that it is realised that full-scale repairs on a systematic basis are not yet possible. Powers to deal with repairs as such would economise both on labour and materials as progressive defects could be arrested on discovery.

The 1949 Housing Act envisaged the conversion of larger houses to smaller units. Although some schemes have been carried out, there has been no large-scale diversion of effort and money in this direction. The reasons may be many, but one or two are obvious. Houses large enough to fall under consideration were built in the days of large families with servants and were designed for that use. They are, therefore, expensive to convert. They are old, and often in disrepair. Frank examination of the position of an owner who might otherwise contemplate conversion drives one to the conclusion that a scheme, applied in accordance with the Act, mostly to old and somewhat faded property, will not yield a return on money invested comparable to the yield from investment in many other channels. The resultant rents are also above the reach of many of those whom this form of activity is intended to benefit.

In conclusion Major Lamb said:

The accommodation necessary to relieve overcrowding and the additional accommodation necessary to meet increases in population and losses due to war can be related to new house production.

An existing house normally provides for at least one family. To allow a house to decay to a point where demolition is inevitable must give rise to the necessity for providing a new house. Many borderline houses could be maintained for some years by the expenditure of under one-sixth of the cost of a new house. The danger is that this obvious truth is not realised.

An amendment to the Rent Restrictions Act allowing for an increase of rent would probably result in improved conditions in over one-third, i.e., about four millions, of the existing houses provided that that scheme did not allow an increase to be charged without prior certificate of the sanitary inspector of the local authority that works had been carried out to a proper standard.

No small percentage rent increase will, of itself, make economically possible the proper repair of the worst third of the existing houses but a suitably regulated scheme might permit such works to be executed as would prevent final loss of these houses for a time. If no such scheme is evolved, purchase by the local authority would appear to afford a satisfactory alternative, although major considerations of policy would be involved by this.

There is an obvious danger that the application of clearance powers whether under the Housing or Town and Country Planning Acts will be governed by considerations of redevelopment. Conditions in existing slums are so bad that it would be unsound to postpone action; broadly, it is imperative to deal with the worst first.

Probably, the principal present danger is that the Government does not realise the extent to which the present powers have proved unsatisfactory as accurate figures are impossible to obtain. Possible remedies demand urgent examination, and prompt action is imperative even if it has to be applied in stages pending the definition of fully comprehensive powers. Statutory powers available to local authorities and the rent structure alike should be included in that examination and any action recommended should clearly provide for the amelioration of conditions in the worst four million houses and for systematic maintenance of the remainder.

In the afternoon session of the conference MR. C. D. BUCHANAN, senior planning officer, London region of the Ministry of Housing and Local Government, read a paper on "Planning and Density." Alderman Mrs. V. A. L. Freeman, J.P. was in the chair.

SHELL CONCRETE CONSTRUCTION

Symposium Summed Up

THE main interests of the Symposium were roughly divided among those who conceive shells, those who calculate shells, and those who construct shells, said MR. W. E. J. BUGDEN, B.Sc., M.Inst.C.E., M.I.Struct.E., when he summed up the 12 papers and discussion which took place at the Symposium on Concrete Shell Roof Construction, held in London recently and reported in our last issue.

The keynote of the first day, he thought, was sounded early in the opening speech, where the need was stressed for very early co-operation between architects and engineers in this form of construction. "It was agreed later," he said, "that this marriage, or should I say remarriage, was only successful when, as in real life, both sides were willing to do quite a bit of compromising." He continued:—

"The other aspect stressed on the first day was that, apart from the initial choice of the form of structure from among the many types of shell roofing available, the aesthetic or architectural success or failure of a building covered with shell roofing depended very largely on the amount of thought given to the arrangement of the services.

"In this connection, it was perhaps a little unfortunate that with the last paper, as with many others on that day and the succeeding days, the discussion had to be curtailed and that possibly limited the amount of pooling of information on this subject.

"The second day opened with a paper by a mathematician comparing the results obtained by the use of the various methods of analysis of shell roofs. From the designers' point of view, this comparison was extremely interesting and valuable, since most of us tend to stick to one method, generally the one we know best. To my mind also, the author of the paper, although a mathematician, showed a much clearer appreciation of the limitation of mathematical analysis in the design of shell than some of the engineers venturing into the same sphere.

"The discussion which followed showed that, after a careful study, many of the apparently large discrepancies between the various methods tended to disappear when actual cases were considered. It was also clear that many structures had been successfully designed and built using the Schorer approximation for analysis, but having dimensions well outside the original limits placed on this method of analysis.

"In the afternoon, sandwiched in between a considerable amount of mathematics, we had a summary of research on shells. This was not only valuable in itself, but the discussion which followed brought to light a considerable amount of additional information which again will be of great value.

"The evening was devoted to a study of one of the latest developments, that is the combination of prestressing with shell roofing. Both the information in the paper and in the discussion which followed showed that the inevitable teething troubles to which any new technique is subject are now rapidly being overcome, and that the range of application of shell roofing has been greatly increased by this new development.

"The final day started with a general discussion on the economics of shell construction, and finished with two excellent factual papers dealing primarily with shuttering, which all of us will agree is one of the most important items affecting the cost of shell roofs."

In concluding his summary, Mr. Budgen said he would like to thank the Cement and Concrete Association for arranging the symposium. It had given them a most valuable opportunity for the exchange of information, both in the formal papers and discussion, and also in the less formal discussions between the meetings.

CANADIAN INTERNATIONAL FAIR

Results "Extremely Satisfactory"

THE 1952 Canadian International Trade Fair, held in Toronto for the fifth year in succession, came to a close on June 13 and the many British exhibitors are now reflecting on their successful participation. The following report compiled by the organisers of the Fair briefly summarises achievements and impressions gained by a few of them.

A 3½-ton stainless steel door in the stand of Chubb and Sons' Lock and Safe Co., Ltd., of London, who exhibited for the fourth time this year, was specially brought from England to Canada for the Fair, and is the type used for branch bank vaults. Each evening thousands of dollars in Dutch liturgical ornaments and exquisite metal work in silver and gold belonging to Hamers Company of New York and the Netherlands were carefully locked away for safe keeping behind this vault door, which was sold to a chartered Canadian bank.

Two British machine tool exhibitors, James Archdale and Co., Ltd., Birmingham, and Alfred Herbert, Ltd., Coventry, who have exhibited regularly since 1948, consider the 1952 Fair the best yet. The Aveling Barford Company of Lincolnshire had registered two sales of heavy road rolling machinery by early Tuesday morning, the second day of the Fair.

United Kingdom short-wave listeners on Friday, June 6, may have heard the rousing rings of an alarm clock direct from the Trade Fair where it was displayed by Smiths English Clocks. The general manager of this company stated that this was their third year at the Fair, and they transacted more business in the first three days than at the whole of the 1951 Fair.

A Meadows Diesel power pack was sold to a Canadian machinery company by Brush Aboe, Ltd. The unit, which has a rating of 95 b.h.p. at 1,600 r.p.m., was bought by Omega Machinery Co., Quebec, and is valued at several thousand dollars.

"We're coming back next year," was the word from the steel furniture stand of Sankey Sheldon, a British firm associated with Lysaght's (Canada), Ltd. This company was particularly impressed about the efficient way the Fair was run.

Summing up at the end of the Fair, the administration stated it had been extremely satisfactory and all British exhibitors had done exceedingly well.

An announcement was made by Mr. C. D. Howe, Minister of Trade and Commerce, to the effect that the Canadian International Trade Fair will be held for the sixth year in succession from June 1 to 12, 1953.

Heat Treatment for Aluminium

Information Bulletin No. 3, "The Heat Treatment and Annealing of Aluminium and its Alloys (Part 1: Practice)," has been issued by the Aluminium Development Association.

ILLEGAL TRANSACTIONS IN STEEL

London Firms Fined

FINES amounting to £1,205 in respect to illegal transactions in steel rods, were imposed at the Marylebone Court recently by Mr. Walter Frampton.

Douglas Scott and Sons, Ltd., of Harrow-road, Paddington, were fined £750, with 10 guineas costs, on a summons by the Ministry of Supply for contravention of the Iron and Steel Prices Order, by selling free cutting steel rounds (25 tons 18 cwt.) to Aldwick Specialists, Ltd., at the rate of £45 a ton, when the maximum price was £27 6s. a ton.

George Demetre Cocovini, of Beechill-road, Eltham Park, a former director of Douglas Scott and Sons, was fined £10 in respect to that transaction.

Aldwick Specialists, Ltd., of Margravine-road, Fulham, were fined a total of £200, with 10 guineas costs, for buying the free cutting steel rounds at £45 a ton, instead of £27 6s.; selling to John Mowlem and Co., Ltd., a similar quantity of steel rounds at the rate of £48 10s. a ton, instead of £27 6s.; and for offering to sell the rods to Taylor Woodrow Construction, Ltd., at £45 10s., when the maximum price was £27 11s. a ton.

Cedric Clemington Constance, a director of the Aldwick Specialists, was fined a total of £30 for the same three offences and was also fined £115 for an independent transaction of selling to Prestige and Co., Ltd., 50 tons of steel rods at £45 a ton, instead of £32 8s. Prestige and Co., Ltd., of 148-150, Grosvenor-road, S.W.1, were fined £50 with 10 guineas costs, for buying the steel rods.

John Mowlem and Co., Ltd., of Ebury Bridge-road, S.W.1, were fined £50 and 10 guineas costs for buying from Aldwick Specialists, 25 tons 18 cwt. of steel rods at £48 10s. a ton instead of £27 6s.

Mr. F. H. Lawton, for Mowlem and Co., said it was a straightforward commercial transaction. Messrs. Mowlem needed the steel rods in the erection of city offices which were to be used by a firm of insurance brokers and they found themselves in the dilemma of being unable to get the steel and having to complete by a certain date. They did not know the rods were controlled.

Mr. John Lawrence, for Prestige and Co., said his clients were building schools at Kenton and Ruislip and found themselves in a similar dilemma.

Mr. Victor Durand, for Aldwick Specialists, and Constance, said that Constance, a New Zealander, conducted the transactions for his firm. He had never before dealt in steel and knew nothing about the Order.

Mr. Lawrence Long, for Douglas Scott and Sons, said the rods were fabricated, substandard bars which were not controlled until loops were removed from the ends to make them suitable for the purpose for which they were required.

Imposing the fines, the magistrate said, "It seems a terrible thing that in order to get a commodity one has to go outside the market and pay more than the permitted price."

Building Centre Addition

The electrical section of the Building Centre, at 20, Store-street, London, W.1, was formally opened on July 10. The section has been organised by the British Electrical Development Association, and was designed by Mr. Hulme Chadwick, A.R.C.A.

1951 CENSUS REPORT

Housing Improvements Since 1931

SOME useful information on present housing conditions in Britain is contained in a report entitled "Census, 1951, Great Britain, One per cent. Sample Tables, Part I," which has been laid before Parliament and is now on sale at H.M. Stationery Office, price 17s. 6d. (The census was taken on April 8 last year.)

The first section of the report, giving population distribution by ages and marital condition, will come into use for many administrative purposes and as a foundation for various current projects of medical and sociological research. The first table in this section gives also a graduated age distribution for Great Britain.

The ageing of the population has progressed considerably since the last census (1931). The number of young adult men (15-34) has fallen from 33.8 per cent. of all men to 27.9 per cent. The percentage of all men who are aged 65 and over has increased from 6.6 to 9.3. For women the percentage aged 15-34 has fallen from 33.0 to 26.9, while at ages 65 and over the proportion has arisen from 8.1 to 12.3 per cent.

The second section, on occupations, indicates that 22½ million persons in Great Britain (15½ million men and 7 million women) follow an occupation for payment or profit; 2,600,000 married women were returned as following a paid occupation (i.e., about 21 per cent. of all married women). Included in the above figures are 799,000 persons working part-time (45,000 men and 754,000 women). The occupied population includes 422,000 men aged 65-69 and 273,000 aged 70 and over; also 191,000 women aged 60-64 and 110,000 aged 65 and over.

Industries

The third section relates to the various industries within which the occupied population works, giving ages, industrial status and region for those engaged in each industry.

The agriculture, mining and textile (including clothing) industries show a decline in numbers: Great Britain 1951 figures are 1,064,000, 845,000 and 1,770,000 against 1,138,000, 1,077,000 and 2,023,000 in 1931 respectively. In chemicals and in metal manufacture, engineering and vehicles the numbers have about doubled (444,000 against 225,000 and 3,948,000 against 2,055,000 respectively); and in building and contracting there has been an increase from 999,000 to 1,364,000. There have also been considerable increases in the various professional services.

Housing

The fourth section relates to the housing of private households. There were 13,312,000 structurally separate dwellings (i.e. separate houses and self-contained flats or apartments) in Great Britain at census day, occupied by 14,481,000 private households. This represents an increase of 3,041,000 occupied structurally separate dwellings (or nearly 30 per cent.) over 1931 and an increase of 3,076,000 households (or 27 per cent.) over 1931.

Two million, seventy-nine thousand households, or about 14 per cent., were housed two or more to a dwelling against 1,972,000 in 1931. The average size of household was 3.19 in England and Wales and 3.39 in Scotland, as compared with 3.72 and 3.99 respectively in 1931.

A notable change since 1931 is the number of persons living alone, who have more than doubled in the period.

Measured in terms of occupants per room, housing has improved since 1931 from .83 persons per room to .73 persons per room in 1951 in England and Wales and from 1.27 persons per room to 1.04 persons per room in Scotland. Broadly the change is due to an increase in the number of small households with low density of occupation and a reduction in the number of large households with higher densities, and, in Scotland, to a marked decrease in the number of houses of one and two apartments.

The figures for household arrangements (sanitary, cooking) on which questions were asked for the first time at the 1951 census show that in Great Britain 37½ per cent. of households had no fixed bath, and a further 7½ per cent. shared with other households; 8 per cent. had no water closet and 15 per cent. shared; 6 per cent. had no piped water supply within the house and 11 per cent. shared. Amongst households who share dwellings the proportions sharing arrangements are relatively much greater. Generally, the incidence of households sharing arrangements is much higher among households of the smallest size (persons) and among households occupying the smallest units of accommodation (rooms), and also progressively rises with increase in density of occupation (persons per room).

Population of Local Areas

THE Registrar General issued on Monday his estimates of the populations of local areas in England and Wales as at June 30, 1951.* These estimates are not precisely comparable with those for previous years as they incorporate census-based data and also consequent minor changes in the classes of persons included. Figures are given for standard regions, conurbations, etc., as well as for administrative areas, and in each case the number of children under 15 is shown. Of the latter there were at mid-1951 some 9,738,000 in an England and Wales population of 43,800,000. They represent 22.2 per cent. of the population compared with 32.4 per cent. 50 years earlier.

*The Registrar General's Estimates of the Population of England and Wales—Populations of each Administrative Area at June 30, 1951. H.M.S.O., price 6d. (by post from P.O. Box 569, London, S.E.1, price 7½d.).

IN PARLIAMENT

The Housing Bill

ON July 14 the Housing Bill came up for second reading in the House of Lords. LORD WOOLTON, Lord President of the Council, after reminding the House that the Bill authorised increased subsidies for housing, including tied cottages under prescribed conditions, and facilitated the sale of houses by local authorities, said its primary purpose was to enable municipal housing programmes to proceed without an undue burden on the tenants or the rates.

LORD SILKIN said that the time had come when the Government should review the subject of housing subsidies, as their predecessors would have had to do, and see where we were going. A subsidy of £35 a year was at the rate of 13s. 9d. a week, and in certain cases the subsidy might be £2 a week. On the basis of 250,000 houses to be built in the present year, the combined subsidy from rates and Exchequer would be £10m., possibly more, and that figure would be cumulative. If the building rate was maintained, a figure of between £200m. and £300m. a year in housing subsidies might well be reached.

It meant that, as we went on, more and more people were having large contributions made to their rents out of public funds; and they had to take into account the large number of persons who were being subsidised privately, as a result of rent restriction.

EARL WINTERTON asked if Lord Silkin suggested that in any review undertaken by the present or any subsequent Government the question of the Rent Restrictions Act should be considered as well as the point at issue in the Bill.

LORD SILKIN said that he was not putting it as specifically as that, but was putting the general picture. It might possibly lead in the direction Lord Winterton would like. It was right when they were largely increasing the public subsidy to housing to realise where they were going and to ask whether in coming years it was a burden we should be able to bear.

A good deal could be done in bringing down the cost of houses. He would like an inquiry into the whole question, because he felt convinced that at some time they would be compelled to call a halt. The solution did not lie in the direction of reducing the standards of housing or in increasing the rents. Most people were already paying as high a rent as they could afford. But he would not rule out ensuring that those who did not need a subsidy should not get it.

LORD WOOLTON asked Lord Silkin to develop his ideas on the way in which the cost of building a house could be brought down.

LORD SILKIN said that there was no ready-made or single solution. In certain instances it had been possible to reduce the cost of houses by providing greater incentives to the workers to build more quickly. If a house could be built in nine months instead of more than 12 months the cost would be brought down substantially. It should also be made worth while for persons to convert existing houses, which would produce accommodation more cheaply and solve other problems. Continuing, he said that he strongly disagreed with the foolhardy policy of permitting the sale of local authority houses at the present time. It would mean no saving to the authority or the Exchequer, for every house sold and taken out of the pool of letting would make necessary the building of an additional house. He urged the Government to hesitate before doing something which must react against the provision of houses for those most in need.

LORD WOOLTON, replying to the debate, promised that adequate consideration should be given to the Bill in Committee. He said that there was no compulsion on local authorities to dispose of their houses; the Government were only giving them power to do so. The local authorities were the most competent to judge of the local situation. The Government were concerned about the fact that 90 per cent. of the people were living in houses at somebody else's expense, and they were looking into it.

The Bill was read a second time.

National Parks

On July 8 MR. BLENKINSOP (Labour) called attention to the administration of national parks. He said that their development was not proceeding in accordance with the conceptions of the original scheme. Many people believed that they were becoming merely local parks instead of being administered nationally for the nation's benefit.

SIR EDWARD KEELING said that the proposal to reverse the decision to have one single planning board for Snowdonia national park should not be proceeded with. It defied the intention of the Act.

MR. MARPLES, Parliamentary Secretary to the Ministry of Housing and Local Government, said that the purpose behind the national parks was to ensure that any future development in areas of natural beauty was controlled; to get rid of some blots on the landscape; and to ensure that possibilities of recreation were developed and that people were allowed access to beauty spots. It was the spirit in administration rather than the letter which mattered most. If local boards could get the results which were desired, that was the thing that mattered. The local boards should be given a chance. There was strong local feeling against a joint board for Snowdonia national park, and the Minister had agreed that for a trial period of three years there should be a joint advisory committee instead, subject to receiving from the county council certain assurances designed to ensure the efficient administration of the park.

Imported Bricks

On July 10 MR. PATRICK MAITLAND asked the President of the Board of Trade whether he would take steps to prevent foreign bricks being imported for house building when stone was available.

MR. PETER THORNEYCROFT said he did not think that it would be practicable or desirable to relate imports into the United Kingdom of bricks to the availability of stone. Imports of bricks amounted to less than one-sixth of one per cent. of home production.

Heating Schemes

On July 7 MR. NABARRO asked the Minister of Fuel and Power whether, in view of his support for the principles of back pressure generation in properly balanced domestic and/or industrial power-cum-heating schemes, in the interest of coal conservation, he would hold consultations with the Minister of Housing and Local Government with a view to promoting a pilot and experimental scheme, on a district basis, in one of the new towns or in a suitable district, scheduled for rebuilding, in one of the bombed towns.

MR. GEOFFREY LLOYD said he would. There was already one scheme of this kind and he would certainly discuss with the Minister of Housing the possibility of promoting other similar schemes.

Building Workers in London

On July 8 LIEUT.-COL. LIPTON asked the Minister of Labour what special steps he was taking to ensure that unemployed building workers in the London area were being found jobs on the building of houses.

SIR WALTON MONCKTON said that employment exchanges brought specially to the notice of suitable unemployed men particulars of outstanding vacancies on housing contracts. A system of circulation ensured that particulars of vacancies, not only in London but also in surrounding areas and in other parts of the country, were brought immediately to notice.

Factory Building

On July 8 MR. FREDERICK WILLEY asked the President of the Board of Trade on what new factory projects in the north-west development area building had commenced since November 1, 1951; and what was the floor space, given separately, when completed.

MR. HENRY STRAUSS said that since November 1, 1951, building had started on five new factory projects exceeding 5,000 sq. ft. The areas of these were 12,000, 14,000, 19,000, 340,000 and 10,000 sq. ft. respectively.

Requisitioned Property

On July 8 BRIGADIER MEDLICOTT asked the Minister of Housing and Local Government if he was aware of the hardship which was being caused to the owners of private property requisitioned by or on behalf of local authorities, in some cases over 12 years ago; and if, in view of the improved rate of house building now operating, he would now consider indicating to local authorities a date by which they should aim at the final derequisitioning of all private houses now under their control.

MR. MACMILLAN said that a Working Party consisting of representatives of the London County Council, the Associations of Local Authorities and his Department, were already examining the whole problem.

Cement Supplies

On July 8 SIR HAROLD ROPER asked the Minister of Works whether he was aware of the shortage of cement in parts of Cornwall.

MR. ECCLES said he was aware that very heavy demands had put a severe strain on the available loading space at the works from which cement was shipped to the West. The cement companies were now sending extra supplies to Cornwall.

Non-traditional Houses

On July 8, in reply to MR. PATRICK MAITLAND, the Secretary of State for Scotland, MR. STUART, said the chief factor limiting Government orders for non-traditional housing, such as the order of 3,000 Weir houses, was scarcity of currency for the purchase of softwood from non-sterling countries.

Harlow and Basildon

On July 8, in reply to MR. ARTHUR LEWIS, MR. MARPLES said the following was the position at Harlow and Basildon new towns at June 30, 1952:—

	Dwellings		*Factories*		*Workers engaged on housing and factories*
	Completed	*Under construction*	*Completed*	*Under construction*	
Harlow	1,085	980	10	11	1,656
Basildon	290	356	1	2	656

Building Sites

On July 8, MR. SORENSEN asked the Minister of Housing and Local Government what further action he had taken, or would take, to confer with local authorities who had no further land available for building, in respect of their large lists of applicants for housing, who had no possibility of securing accommodation in the areas where they now resided.

MR. MARPLES said that the Ministry had already had discussions with various local authorities who were faced with this problem, and was ready to do so further where that would help. But the first step was for the authorities themselves to confer with the local planning authorities in whose areas it seemed likely that land could be made available for the relief of their housing needs. Some, he understood, were now doing this, and no doubt would do so when the Town Development Bill became law.

L.M.B.A.

Half-yearly Report

THE closure of the Apprentice Master Scheme on March 31 last once more places the full responsibility for training upon the industry itself, states the London Master Builders' Association in its half-yearly report, just published. On the subject of apprenticeship generally, the report states that in spite of energetic efforts by the Apprenticeship Committee and Area Representatives to stimulate recruitment, the numbers of craft apprentices indentured during the first half of this year have shown no marked improvement over 1951.

A number of recommendations designed to improve the National Joint Apprenticeship Scheme, which originated mainly as a result of individual area apprenticeship inquiries, have been accepted by the Association and referred to the National Federation for urgent consideration. The area inquiries have also confirmed that many firms are still not employing any apprentices, and have indicated numerous difficulties which exist so far as certain types of firm are concerned.

Youth employment officers and officials at the building schools have continued to support the industry in seeking prospective apprentices, but many good boys have been lost owing to the lack of sufficient immediate vacancies. Experience has shown that, unless the building industry is quick in offering a boy employment within a few days of his leaving school, then the boy will lose interest and turn to other industries whose many attractions are well publicised, particularly in these days of shortage of juvenile labour.

It is apparent that the Association's recruiting drive has brought apprenticeship to the notice of many who were hitherto inclined to ignore it.

On the subject of standard forms of contract the report states that the Association has continued its efforts for the even greater use of the R.I.B.A. Standard Form of Contract and the Standard Form of Sub-Contract agreed by the building industry, but that it is to be regretted that the discussions with the London County Council have made no progress whatever and the L.C.C. continue to impose unilaterally upon the industry their various forms of contract.

Tendering Lists

It is the policy of the Association to encourage local authorities and other public bodies in the interests of economy and efficiency to keep the numbers of firms invited to tender for various types of building works within reasonable limits having regard to the size and cost of the work involved. These representations, in which the Eastern and Southern Counties Federation have also been concerned, have recently met with some success with regard to the Essex, Middlesex and Berkshire County Councils, all of whom have now adopted a reasonable procedure whereby the number of firms invited to tender is related to the size of the job concerned. At the same time the opportunity is given from time to time by public advertisement for firms to ask for their names to be placed on the County Councils' tendering lists.

The report states that during the first six months of the year 49 new members have been elected to membership, and at June 30 last the membership stood as follows: Ordinary members, 1,628; associate members, 88; sub-contractor members, 45; honorary members, 6; making a total of 1,767.

EFFECTS OF PLANNING ACT

"C.L.B. Planning Authority for Whole Country"

THE Town and Country Planning Act, 1947, was severely criticised by MR. REGINALD T. WHITTON, O.B.E., in his presidential address at the annual meeting of the Chartered Auctioneers' and Estate Agents' Institute at Malvern on June 26.

Mr. Whitton said the Act was based on purely theoretical principles and did not make allowance for human nature. Even another two or three schedules or any number of regulations could not have altered human nature.

"Land does not and will not sell at restricted value," he declared. "Why should it? Apart from an urgent need to raise money, land sells because there is a more valuable use for it than that to which it is now put. If the Act remains in force, substantial development or improvement will cost an owner of land more than before. This can only discourage improvements, or increase the price of the end product. This must be wrong.

"The Act is going to cost the country £300m. for no benefit of appropriate value. The country has not got this amount to spare and will have to print it. There never was a time when this was a more deplorable procedure. Valuations for development charge are frequently entirely hypothetical. The fate of a neighbourhood or a large enterprise may depend on a piece of arithmetic unrelated to fact. The Central Land Board, against whose decision there is no appeal, has become in effect the planning authority for the whole country."

The most marked resentment to the operation of the Act seemed to arise in the case of a change of use of already developed land. Even the academic justification for development charge was less obvious in these cases. Realistic calculations were frequently impossible and as a direct result the use to which buildings were put could turn out to be entirely contrary to public interest. The operation of the financial provisions of the Act was not a subject on which anyone should have half-hearted views and criticism should be open and forceful while the £300m. was still undistributed.

"The institute believes that there should be an end to development charge and no distribution of the £300m., which we have not got," the speaker continued. "It also believes that it would not be unduly difficult to adjust the cases where charges have already been paid. It has, therefore, noted with satisfaction some recent statements of the Minister of Housing and Local Government in regard to the amendment of the Act. I hope that, in spite of the many legal complications, the Government will take early action on this important matter."

Tree Preservation

Commenting on the recent Forestry Act, Mr. Whitton said: "May I urge all members of our institute to do all they can to prevent unwise felling of trees, especially in built-up areas where a group or avenue of trees lost through bad planning can never be replaced. I am so glad to notice that in the new town at Harlow, in Essex, the planner, Mr. Frederick Gibberd, is making every effort to retain the best of the trees on the estate and also to see that where areas are clear-felled a scheme for replanting is ready and put into immediate operation."

CEMENT PROSPECTS

Mr. Eccles on Need for Increasing Production

SPEAKING at the opening of the Associated Portland Cement Manufacturers' new research laboratories at Greenhithe, Kent, on July 11, the Minister of Works, MR. DAVID ECCLES, said that the British cement industry was an efficient industry because those who worked in it earned good money and the consumer paid less for cement than in any other country whose prices were known to him. Two-thirds of the output of Great Britain came from the group of companies which had built and equipped this research laboratory, and since 1946 the group's production had risen from 4 m. to nearly 7 m. tons a year.

The building is shown on p. 88.

Mr. Eccles continued: "I would like to say something about the outlook for cement as I see it. At the present time, demand in this country is increasing faster than we had expected. This is a very welcome development and shows how vigorous is the rate of expansion of the building and civil engineering industry.

"Now I cannot see anything but a rise in the consumption of cement in this country. It is absolutely necessary that we should save imported material, and particularly save steel, which at present we must to some extent buy from abroad, and which is so badly needed by our engineering industries for conversion into exports of great value. We must therefore do all we can to encourage architects and engineers to use modern techniques of reinforced and prestressed concrete for constructing their buildings.

"Production must be raised, and every extra thousand tons that can be produced is a victory in our fight to maintain the volume of imported food and materials that support our standard of life. I also hope you will help the balance of payments by pushing on with the delivery of cement in bulk. I want to make a special appeal for the cement companies to consider ways and means of distributing their products which reduce the necessity of importing packing materials."

WEST MIDLANDS PLAN

Criticised as "Ruthless and Drastic"

THE West Midlands Development plan, drawn up by Sir Patrick Abercrombie and Mr. Herbert Jackson, was described by MR. S. C. REDHEAD, deputy town clerk of Smethwick, at a public inquiry at Smethwick on June 25, as "ruthless and drastic."

The inquiry was into objections to Smethwick's own 20-year development plan to concentrate industry on the north and east sides.

Mr. Redhead, representing Smethwick Council, said that, according to the West Midlands plan, Smethwick was only large enough for a population of 55,000, but the present population was 76,000. "The West Midlands Plan says that surplus population, amounting to nearly a third of the total, must be transplanted to new homes right outside the West Midlands conurbation," he said. A similar portion of Smethwick's industry would have to go with them.

The council had come to the conclusion that when some 2,500 of its population had been rehoused in the adjoining boroughs of West Bromwich and Oldbury, the remainder could be rehoused in Smethwick and the necessary amenities provided, if the greatest possible economy was exercised in land use.

BIRMINGHAM'S "OVERSPILL" POPULATION

Objections to Building in Green Belt

WARWICKSHIRE has agreed to take half of Birmingham's overspill population in the areas of Solihull, Castle Bromwich and Sutton Coldfield. Further immigrants are expected in smaller numbers at Leamington, Warwick, Nuneaton, Kenilworth and Stratford-on-Avon. Some industries may be allowed to move to Bedworth.

These facts were disclosed at the public inquiry into the Warwickshire county development plan at Warwick recently.

The overspill, estimated to total about 140,000 in the next 20 years, was called a "tide of people flooding into the county from Birmingham . . . and unless Warwickshire turns out the Home Guard to man the frontiers the people will come into the county," by MR. G. A. GROVE.

Mr. Grove was appearing for the Birmingham builders, Morris and Jacombs, Ltd., who were objecting to the County Council zoning the area between Castle Bromwich and Water Orton as non-residential land. Messrs. Morris and Jacomb wish to erect a housing estate on three farms totalling 617 acres to the north of Chester-road.

MR. L. P. WALLEN, conducting the county's case, said that the proposal to build the estate was an attack upon the fundamental principle of planning. "They are questioning whether the tide of people should be controlled or not," he said.

The proposed estate would house about 14,600 people, and would entirely close the gap of open country between Castle Bromwich and Water Orton, Mr. Wallen said. The County Council believed it was most important to control development in the rural areas round Birmingham, and most strictly to preserve the narrowing green belt round the city.

Warwickshire had allowed for 68,500 immigrants, and the development plan and the estates were not necessary because there would not be the eventual population to fill it, said Mr. Wallen.

The objectors said that they had already contributed more than £1,500 to the construction of sewers that would drain the land, and the development of the estate was simply a continuation of the present built-up area of Castle Bromwich.

CHURCH BELLS

Preservation and Recasting

THE CENTRAL COUNCIL FOR THE CARE OF CHURCHES passed the following resolutions at a recent meeting:

1. Bells earlier than 1600 should not be recast, but preserved in the church, and no bells older than 1750 should be recast unless cracked. If bells of 1750 and onwards are permitted to be recast, the old inscription should be reproduced in facsimile on the new bell, with the date of recasting added.

2. When estimating for major work on bells, the firms tendering should give the date and founder of each bell in the ring, and any points of special interest, including inscriptions, and the approximate age of the frame.

3. No bells should be rehung, or frame altered, in ancient towers, save under an architect skilled in handling such buildings.

4. The council adhere to the advice they have already given on many occasions in former reports, especially as regards the retention of canons.

A.U.B.T.W.

Payment by Results "a Considerable Disappointment"

MR. HARRY ADAMS delivered his presidential address to the Amalgamated Union of Building Trade Workers at the National Delegate Conference at Whitley Bay on July 14, in the course of which he announced that the decline in membership had now been arrested and that amalgamation with the National Builders' Labourers and Constructional Workers' Society was now an accomplished fact.

Referring to wages and conditions, Mr. Adams stated that in civil engineering the Union's position had changed considerably by reason of a decision made by the N.F.B.T.O. to become party to the Civil Engineering Agreement and to be represented on the Civil Engineering Conciliation Board. As a result, the agreement had been amended in several directions which brought the working conditions more into line with building industry practice.

After stating that the Union were pursuing their efforts to obtain a full guaranteed week and still regarded that reform as the paramount industrial issue, the President continued: "Our experience of payment by results and labour only sub-contracting has been, to put it mildly, a considerable disappointment, and as a result we are forced to give consideration to the question of continuing to operate the agreement covering these two issues. Last year I informed you that joint advisory panels were to deal with problems as they arose, but, unfortunately, we are now faced by a judgment given by a county court judge which not only dashes our hopes of smooth working but in fact appears to completely destroy the cover of the Fair Wages Clause resolution passed by the House of Commons on October 14, 1946."

New Wage Demand

When the conference resumed on Tuesday a resolution expressing dissatisfaction with the recent wage award and urging that a substantial increase of not less than 6d. an hour should be sought was passed unanimously. A resolution calling for the return to their country of Italian workers now employed in constructional work was passed by a big majority.

Resolutions asking the executive council to oppose the calling up for national service of young building trades craftsmen; calling for compulsion on local authorities to run direct labour building schemes; and for the insertion of provision for a tea break in the national rules governing working conditions were also passed.

Mr. H. J. O. Weaver, of London, was elected president for the coming year.

HOUSE COSTS

Firm Cuts Prices by £100

A FIRM of Torquay building contractors, F. T. Stoneman, Ltd., of St. Margaret's-road, St. Marychurch, have announced that, following the lead given by Ford's, of Dagenham, they are offering a reduction of 5 per cent. on all estimates and work pending.

MR. F. T. C. STONEMAN, a former Torquay town councillor, who is joint managing director of the firm, points out that this reduction makes a saving of about £100 on the construction of a house, and will, in due course, act as a stimulant to building and the country's economic recovery.

HOUSING DEVELOPMENT AT LAMBETH

New L.C.C. Scheme

A SCHEME for the development of a new estate on the 36-acre site at Loughborough-road, Lambeth, includes houses, flats, maisonnettes, an old people's home and shops. The scheme has been prepared by the London County Council's Housing Architect and has been approved by the housing committee. It is estimated to cost £2,374,600.

The land available for housing is nearly 27 acres. The scheme allows for five 11-storey blocks of maisonnettes, four 11-storey blocks of flats, one six-storey and 15 four-storey blocks of maisonnettes, eight terraces of two-storey houses, a two-storey block of one-room flats, and two three-storey blocks of shops with maisonnettes above. There will also be nine laundries, a tenants' clubroom, a children's playspace, 28 garages, 418 tenants' stores and an estate workshop.

The planned accommodation provides for a total of 737 maisonnettes, 230 flats, 62 houses and 10 shops, at a density of 38.2 dwellings to the acre. The maisonnettes will be of a new type said to give more privacy and quietness than flats with balcony access, and construction will include sound insulation.

A public open space of 6.5 acres alongside the railway viaduct is planned to reduce the number of houses that must be adjacent to the line.

BUILDING COSTS IN I.O.M.

Denial that they are "Tumbling"

TYNWALD, the Manx Parliament, has approved the petition of the Douglas Corporation for leave to borrow £280,890 to cover their portion of the cost of erecting 148 more houses on the new estate at Willaston. The period of borrowing was reduced from 60 to 50 years at the suggestion of the Local Government Board.

MR. J. B. BOLTON said when the tenders were announced it was stated in headlines in the local Press that building costs were tumbling. They were not. If the difference in specification was taken into consideration, plus the fact that the man on the site had an advantage, it would be found that the costs were practically the same.

DEEMSTER R. G. JOHNSON complimented the Local Government Board on their revised specifications, which meant cheaper prices, but wished the alterations had been made in 1948, as they would have saved the Manx Exchequer many tens of thousands of pounds. They were saving £400 a house, and, in addition, he had been informed that building costs had advanced 40 per cent. since 1948, so the house which cost £2,000 in 1948 would cost nearly £2,800 now. The present scheme was to build a house for £1,550; consequently the actual saving, in comparative costs, was very great.

MR. J. CRELLIN, chairman of the Local Government Board, in reply, denied that the price of building was tumbling, but admitted there was greater competition. Even the biggest firms in the island were now tendering for the smallest jobs.

Council to Build Houses for Sale

Leamington T.C. is to build 22 houses at Lillington for sale to applicants of moderate means. The houses will be semi-detached and comprise a living room, a dining-kitchen, three bedrooms and space for a garage. The price will probably be £1,570 each.

POLITICS IN HOUSING

Reductions in Private Licences at Wolverhampton

WOLVERHAMPTON'S Labour controlled town council has shown its disagreement with the housing policy made by the council when it had an anti-Socialist majority. At a recent meeting the council approved the housing committee's report that the proportion of the 1953 allocation which should be issued by way of private building licences should be one-fifth.

The anti-Socialist council had allocated one in five of its 700 allocation to private builders but decided that 50 per cent. of a further allocation of 300 later in the year should be promised to private builders. The overall proportion of private building licences promised for 1952 was therefore 29 per cent.

In presenting the committee report to the council the chairman, ALDERMAN H. E. LANE, said the housing committee had in fact been generous in deciding to allocate one-fifth of the council's total allocation for private building. There were, he said, 6,314 persons on the council's waiting list for houses and the number of applications for private building licences was 666—a proportion of one to nine. He warned the council that they must find as quickly as possible 4,000 building plots to meet their housing needs; the total number of plots remaining available for building was only 2,000 and a further 4,000 were required to meet the needs of those on the present waiting list.

This would only touch the fringe of the problem, however, for there were well over 8,000 to 10,000 houses remaining to be dealt with in the clearance areas.

Replying to opposition speakers, Alderman Lane said that when applicants realised the costs involved in building their own houses many building licences were returned; in fact already 25 of the last batch of licences had been returned and he proposed in the near future to give the council a detailed report on licences issued.

OPPOSITION TO NON-TRADITIONAL HOUSES

Town's Prefabs "a Disgrace"

OBJECTING to a proposed visit by five councillors and five corporation officials to Redditch, Market Bosworth, Arnold, and West Bridgford to inspect non-traditional types of houses, COUNCILLOR J. R. BRATTON, himself a builder, asked Grimsby housing committee on July 9 if the journey was really necessary.

He maintained the visit was not necessary, and said that the type of houses to be inspected "were things Grimsby wants to avoid." All the information needed could be gleaned from pamphlets and brochures. Scunthorpe's "prefabs" would be a disgrace to the town for years to come, he claimed.

But the committee agreed that it was necessary to see various non-traditional types as the question would influence the town's housing policy for some years ahead.

PERSONAL COLUMN

J. GLIKSTEN AND SON, LTD., announce that Mr. N. E. H. Lain has been appointed chief accountant and Mr. L. Hedden, A.C.I.S., assistant secretary.

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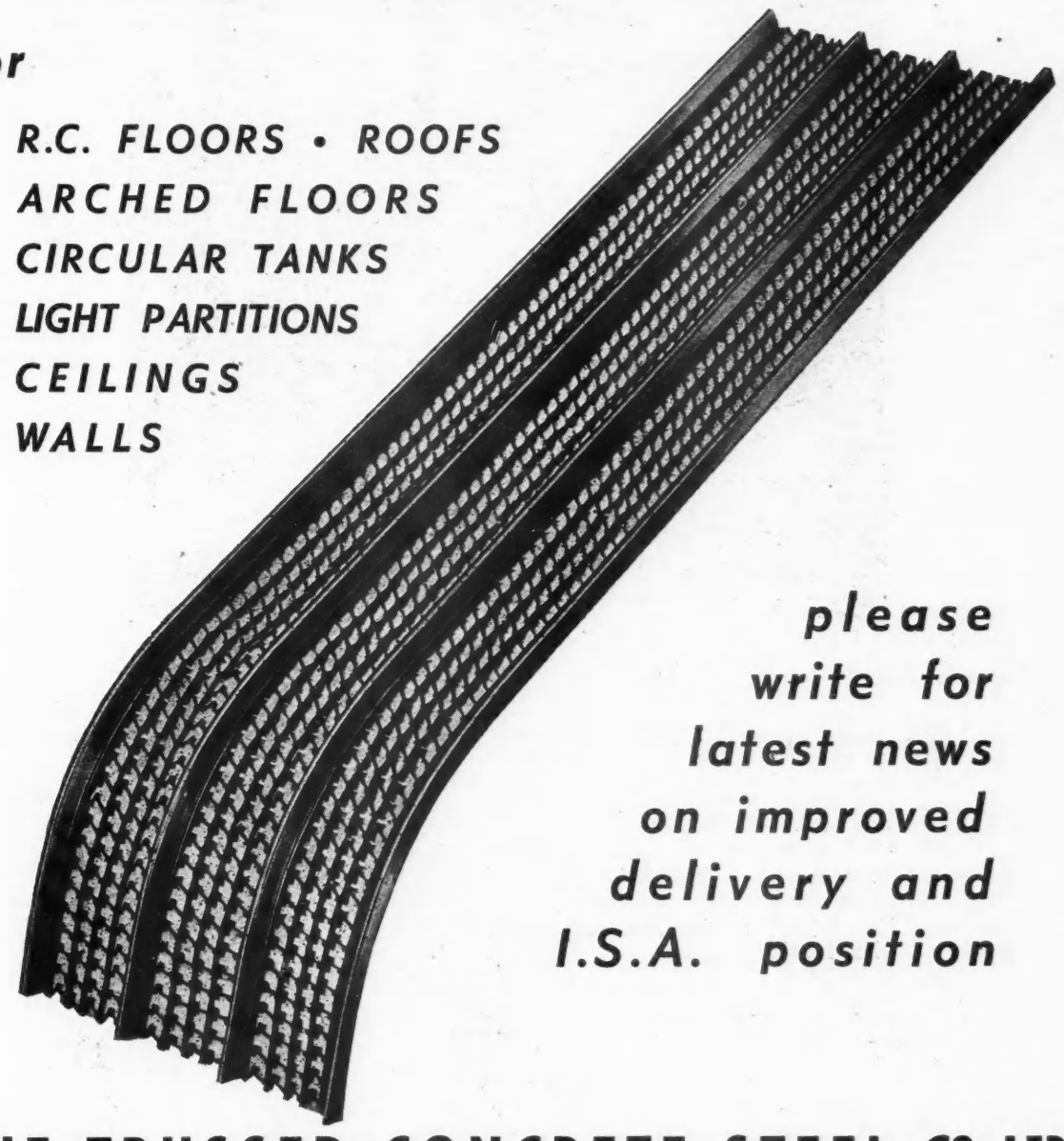

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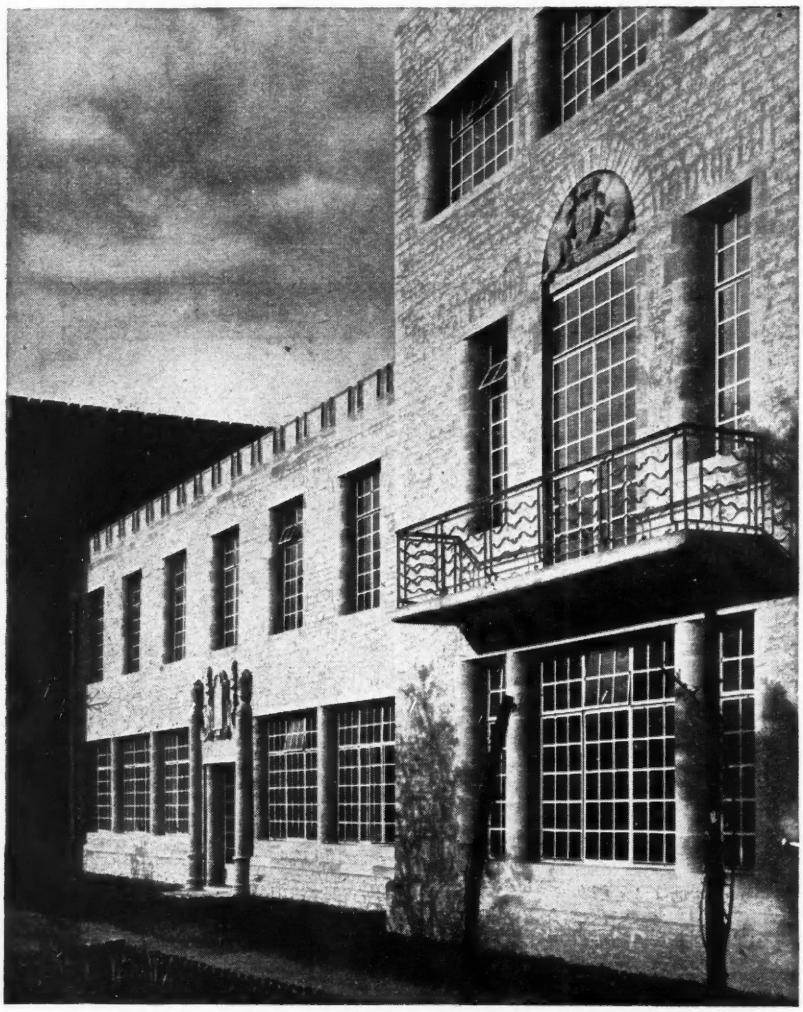

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IRON AND STEEL MAKING IN U.S.

British Productivity Team's Report

THE higher productivity of both plant and labour in the American heavy steel industry may be attributed mainly to larger units of plant in larger works, the greater purity and abundance of raw materials, faster driving of plant and the use of high-grade fuel, including oil and natural gas. These are the broad findings of the * British Iron and Steel Productivity Team which, led by Sir Charles Goodeve, spent 5½ weeks visiting heavy steel works in the United States last year under the auspices of the Anglo-American Council on Productivity and the E.C.A. technical assistance programme. Besides visits to works (mostly in the south and west of the U.S.) the team also had discussions with the American Iron and Steel Institute and the United Steelworkers of America. The team's main findings are summarised below.

Products and Markets.—The market served by the British industry is only one-sixth as large as the American and, because of the larger proportion of exports, is much less standardised. In America the ranges of product size and qualities have been substantially reduced, and broader tolerances and less rigid specifications of finish encouraged, by charging larger extras for special qualities and small quantities. Moreover, orders for less than certain minimum tonnages are dealt with by stockholding merchants, who sell nearly a fifth of all finished steel. All of these measures help to increase productivity, although the saving in production costs is offset for the consumer by the facts that a large proportion of the output is handled by merchants and that the concentration of production involves deliveries over greater distances.

Raw Materials.—The average iron content of all ores consumed in Britain, based on the 1950 usage of 60 tons of home ore to 40 tons of imported ore, is about 40 per cent. compared with about 50 per cent. in America. The use of more of the richer imported ores would obviously increase British ironmaking plant, fuel and labour productivities, and steps to achieve this are already being taken. Much remains to be done in ore treatment and beneficiation, both for imported and home ore, although Britain has been at least as progressive as America in this field.

Fuel.—American coking coal is, on the average, of better quality than British; it is easier to mine and, therefore, relatively cheaper than in Britain, where demand at present exceeds supply. British blast furnaces operate nearer to the minimum coke consumption rate than American, but there is still room for improvement in the size distribution and bulk density of British coke by better coking technique and improved screening and handling methods.

For open hearth and mill furnaces, America has the enormous advantage of abundant reserves of cheap oil and natural gas, which are piped to most parts of the country. The effect of these rich fuels on productivity is shown by the fact that about one-quarter of British open hearth steel production has been converted within the past five years from producer gas to oil firing with an increase of about 10 per cent. in furnace outputs. In British soaking pits and reheating furnaces there is considerable scope for improvement in fuel consumption rates. Because richer fuels are plentiful, the works in the south and west of the U.S. do not conserve blast furnace and coke oven gases as British works have to do.

Size of Works and Plant Units

The team recommend that all integrated steelworks should aim at an annual capacity of 750,000 to 1,000,000 ingot tons.

As regards units of plant, they recommend standards for future development as follows:—

Blast furnaces should have hearth diameters of 25 ft. where imported ore is used and 27 ft. where home ore is used; cold metal open hearth furnaces should tap 150 tons, hot metal (fixed) 225 tons, and hot metal (tilting) 350 tons; primary rolling mills should have annual capacities of 750,000 tons.

Some steelmakers in Britain have already reached these standards and as a result of developments at present in hand several others will reach or exceed them. It will be necessary for British development and re-equipment to be concentrated in the works most suitably located for expansion, and this process is already under way.

Plant Operating Rates.—American steelworks plant is driven at high rates. To a large extent this is attributable to the purity of raw materials and fuel, to size of plant units, and to other characteristics peculiar to the American industry. But even after allowing for these, American steelworkers are still able to get 10 per cent. to 20 per cent. more out of each unit of plant than we do in Britain. In blast furnaces this is accomplished with some increase of coke consumption (which the Americans can afford) and in open hearth furnaces with a reduction in roof life (which they accept). The rolling mills, however, seem to take fast driving with little, if any, increase in shut-down or maintenance costs. There is no case for a blind following of American operating rates, but there is a case for a continuous study of all modern methods to increase the operating rate of each individual piece of plant.

Manning and Mechanical Aids.—American manning per unit of plant is generally lower than in Britain, despite higher outputs. Mechanical aids and handling equipment are used wherever practicable, both to economise on labour and to enable continuous operation at a good speed. The difference in manning rates is particularly noticeable for steel furnace maintenance, where the greater working space provided in melting-shop layouts and the provision of many effective mechanical aids result in a considerable reduction in plant standing idle.

Labour, Training, Safety.—A large measure of uniformity in wages and conditions exists in the American industry, wage contracts being negotiated by the United Steelworkers Union with the various companies, using as a basis "job evaluation." This system is claimed to have eliminated previous inequities and to have reduced grievances. Output bonus schemes are somewhat less common than in Britain, but where they do exist they are direct and effective. Industrial relations seemed good at local level, although less stable than those in the British industry, where there has been no major dispute for over 40 years. American training schemes and welfare activities are no better than those in the average progressive British firms. Safety consciousness, however, appears to be substantially better, and intensified efforts are required here to improve the British position.

Transport.—Despite much higher American wage rates, the rate per ton-mile for ore and coal on American railways is two-thirds or less of that in Britain, due largely to the very much greater American train and wagon loads. Cheap transport of raw materials and products affects location and size of works, increases competition between works and aids specialisation. A long-term programme of British shipbuilding and port development is required, and considerable action is already being taken.

Research and Development

Research inside the American steel industry is on a relatively small scale, owing perhaps to the comparatively simple metallurgical problems in that country. Ferrous metallurgical research in America as a whole is on an extensive scale, and receives considerable financial assistance from the Government and from the using industries. Co-operative research in Britain has been found to be an efficient way of increasing the technical strength of our industry, and is on a much larger scale than in the U.S.

The cost of making iron and steel in Britain remains low by international standards. It can, however, only be kept so by continuous modernisation and the most effective utilisation of plant. Capital development since the war, together with increased use of fuel oil and the introduction of the continuous working week, has already given an increase of 25 per cent. in the output of finished steel per man.

American firms are allowed by the Government to write off capital cost of plant and buildings more rapidly than the British firms. The capital cost of an integrated steelworks on a new site is estimated at £75 per ingot ton of capacity; unless the higher capital charges involved in new investment are more than offset by the operating economies secured through an increase in plant or labour productivity, then productivity in its widest sense has declined. Even after taking account of this factor the Team urges a continuation of at least the current expenditure by the British steel industry. At present prices £30m. must be spent each year merely to maintain existing capacity. Plans are, however, now being made to increase the present capacity, and the Team considers that an annual capacity of around 20m. ingot tons could be reached in a reasonable time only if annual capital investment of £60m. is maintained or even exceeded.

*Copies of the report may be obtained from the Anglo-American Council on Productivity, 21, Tothill-street, S.W.1, or from the British Iron and Steel Federation, 11, Tothill-street, S.W.1, price 5s. post free.

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WAR DAMAGE COMMISSION

Cost of Works Claims

THE War Damage Commission, in a Press statement, say that they find that some misunderstanding seems recently to have arisen among professional advisers and others concerned with war damage repairs about the Commission's attitude to claims for work done or proposals for repair. Apparently there is an impression that the Commission have "changed their policy" and are no longer prepared to accept any liability for any redecoration as a part of the war damage repairs.

This is not so. The Commission's policy always has been, and still is, to carry out the duty placed on them by the War Damage Act, 1943, namely, to pay the proper cost of works executed for the making good of war damage where the occurrence of the damage was duly notified to them. But inevitably with the lapse of time—it is now more than seven years since the last bomb fell anywhere in this country and in most areas longer still—and with the progressive accumulation of dilapidation, the Commission have been bound to scrutinize more and more closely claims for work done or schedules of proposed repairs in order to satisfy themselves what is the extent of the work (including decorations) which can properly be said to be required in order to make good the war damage (and therefore paid for out of public funds) as distinct from maintenance repairs. It is all the more necessary to bear this in mind now at a time when so many owners find it convenient to carry out at the same time both the repair of any outstanding war damage and of ordinary dilapidations accruing over the last 10 years or more during which so little maintenance work has been possible.

The Commission wish to emphasise that when work of a typically maintenance character—minor plaster repairs and decoration—has already been carried out before they are approached, it must inevitably obscure the evidence of war damage which the Commission must have before they can admit a claim. They accordingly strongly recommend owners or those acting for them to put their proposals to the Commission before the work is done, so that they may know in advance to what extent (if any) the Commission can accept liability.

The Commission are now ready to give advance consideration to proposals for repair in all cases, whether the amount of work involved is small or large: the lower limit of £250 no longer applies.

IRON AND STEEL

Changes in Distribution Scheme

A NUMBER of technical changes have been made by the Ministry of Supply in the Iron and Steel Distribution Scheme, by the Iron and Steel Distribution (Amendment No. 2) Order, 1952 (S.I. 1952, No. 1316).

The changes include:—

(a) Large springs have been taken off the directly controlled list. Manufacturers incorporating springs in their products now have to give spring-makers a sub-authorization out of their main allocation.

(b) The amount of electrical conduit which can be obtained without permit under the small quantities exemptions has been reduced to 3 cwt. a month.

Relaxations have also been made in the special arrangements for economising in the use of alloy steels containing nickel and molybdenum. The Order, effective from July 21, is obtainable at H.M.S.O., price 2d.

NEWS IN BRIEF

Housing in Liverpool

Liverpool Corporation Housing Committee has been informed by the Minister of Housing and Local Government that its housing quota for next year will be raised to 3,100 and for the following year 3,565. This, says the Minister, must be regarded as the minimum, and contracts should be let as necessary to maintain continuity in building.

Economy in Local Government Services

The Minister of Housing and Local Government, Mr. Macmillan, has sent a circular to local authorities and water and sewerage undertakings calling their attention to the need which has been emphasised by the Chancellor of the Exchequer for economy in local as well as national government. In general, local authorities are asked to concentrate capital works on those whose deferment would endanger life or health or are otherwise in the highest degree essential.

Industrial Design Appointments

The Board of Trade announce that the President has appointed the Rt. Hon. Lady Sempill, Miss Mary Grieve, Mr. George Breeze, Mr. Lynton H. Lamb and Mr. Walter Lines to be members of the Council of Industrial Design. He has also re-appointed Mr. Geoffrey Dunn, Mr. Leslie Gamage, M.C., Mr. John Gloag, Mr. G. W. Lacey, C.B.E., B.Sc., F.R.I.C., Sir William Palmer, K.B.E., C.B., Major F. J. Stratton, C.B.E. and Dr. W. J. Worboys, B.Sc., Ph.D., to be members of the Council on the termination of their existing appointment.

The President has also appointed Mr. W. D. Ritchie, O.B.E., M.A., F.E.I.S., to be a member of the Scottish Committee of the Council of Industrial Design. The Rt. Hon. Lady Sempill, Mr. J. Douglas Hood, Mr. J. McMurtrie Kay and Mr. Andrew Nairn have been re-appointed to the Scottish Committee on the termination of their existing appointment.

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"Design Review"

"Design Review," the Council of Industrial Design's photographic index of good current British design (first presented at the South Bank Exhibition last year) is now housed at the Council's headquarters at Tilbury House, Petty France, S.W.1, and architects and designers are cordially invited to make use of it from now onwards.

S.E. London Technical College

The 1952-53 prospectus of the Department of Building of the South East London Technical College gives details of the various classes and courses to be held at the College in the next session for builders, architects, surveyors, structural and civil engineers, sanitary inspectors, etc. The available courses cover bricklaying, carpentry and joinery, plastering, painting and decorating, plumbers' welding, mechanical wood-cutting, commercial motor body building, etc.

Encouragement for Local Builders

Members of the Liverpool Regional Federation of Building Trades Employers held a dinner and dance at Wallasey recently when the Mayor of Wallasey (Councillor W. O. Hannaford) said that, based on population, Wallasey had achieved better housing results than any town on Merseyside, and that achievement had only been made possible through the co-operation of the building industry and local builders in particular. He added that Wallasey Council had decided to give local builders the chance of building their houses instead of issuing large contracts to one or two contractors.

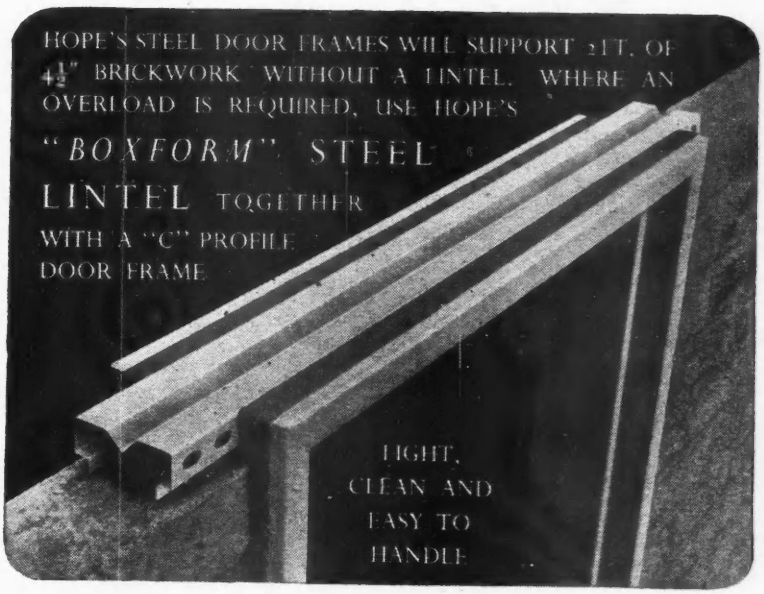
Caravan Site Decision

Subject to certain conditions, the Minister of Housing and Local Government has allowed the appeal of Mr. H. P. Studt against Heston and Isleworth Council's refusal to allow land at William's Place, Ivy-lane, Staines-road, Hounslow, to continue to be used for the parking of showmen's caravans and vehicles and the storage and maintenance of fairground equipment. In granting the appeal, the Minister makes the following conditions: (1) that the use shall be discontinued at the expiration of five years; (2) that not more than six caravans for use as dwellings shall be on the site at any one time; and (3) that no power-operated machinery shall be installed or used on the site.

Gift to U.N.O. Headquarters

Her Majesty's Government is to give to the permanent Headquarters building of the United Nations the panelling and furnishings for one of the committee rooms. The English oak panelling (natural colour and wax polished) is designed with horizontal bolection moulded panels alternating with square fielded panels, the latter bearing carved motifs of British fauna and flora.

It was designed by Mr. C. T. Pledge, A.R.I.B.A., of the Chief Architect's Division, Ministry of Works, after consultation with Mr. Howard Robertson, A.R.A., P.R.I.B.A., who was the British member of the Board of Design Consultants of U.N.O. The carved panels, bearing 84 different motifs, were designed and worked by Mr. John Skeaping, A.R.A. The furnishings include tables and chairs in English oak, and a green close-fitted super-saxony Wilton carpet. The armchairs for the delegates and the 28 small chairs for the Press and public are covered in blue hide. Both the tables and chairs were designed by the Supplies Division, Ministry of Works, in consultation with the Chief Architect.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EUROPEAN TIMBER IN 1951

Pre-war Volume of Trade Approached

THE European timber trade during 1951 reached a new post-war high record; it improved by about 25 per cent. in volume and more than 100 per cent. in value compared with 1950, and even approached the volume of the last pre-war years. This information is given in the latest number (Volume IV, No. 4)* of "Timber Statistics," the quarterly bulletin issued by the Economic Commission for Europe.

Towards the end of the year, the development of the timber market showed obvious signs of weakening. The trade in sawn softwood in particular was weak during this period, which was characterised by strong pressure on prices on the part of buyers. On the whole, the volume of fellings in 1951 was higher than in 1950.

Sawn softwood production was the highest since the end of the war—in 1951 it amounted to a total of 6.7 million standards, as compared with 6.4 million standards in 1950. In the Western European countries, production was practically up to the level of the later pre-war years. Between 1950 and 1951 the European sawn hardwood production rose from 6.2 to 6.6 million cu. m.

The extraordinary rise in the prices of forest products on the European market in 1951 brought about large increases in stumpage prices in the autumn of that year. In the northern countries, the first roundwood sales for the 1951-1952 season brought price increases of 100 per cent. or more above those of the previous year. However, these prices subsequently declined, and by the end of the year prices paid for roundwood amounted to only 50 to 60 per cent. of the earlier top prices.

Imports of all categories of timber by European countries were substantially higher than in 1950. Sawn softwood imports rose from 2.2 million standards in 1950 to 2.9 million standards in 1951, the increase being mainly due to the doubling by the United Kingdom of her imports in that year. Imports from the dollar area also increased for the same reasons, rising from 172,100 standards in 1950 to 549,400 standards in 1951.

The main exporting countries, which by the end of 1950 had sold about 40 per cent. of their total export availabilities for 1951, had disposed of only insignificant quantities by the end of 1951 for delivery in 1952. The absence of British buying and the hope of an imminent fall in prices were the main reasons for the caution shown by most of the other importing countries. Both the exporting and the importing countries apparently preferred, at the end of 1951, to adopt a waiting attitude.

The situation at the beginning of 1952 was characterised by considerable uneasiness as to coming developments. The pressure of the buyers on the exporting countries seemed to have produced no drastic change in the attitude of the large export sawmills, but there were some indications that a few of the smaller northern sawmills had offered their goods at prices showing reductions of some 10 per cent. in comparison with previous top prices. The availabilities of new supplies of sawn softwood in the northern European producing countries appear to have become considerably smaller in 1952 than they were in 1951. Although overall European requirements will probably be considerably smaller, it is not certain whether the reduced export availabilities in the main exporting countries will suffice to meet future demands, in spite of the heavy decline expected in exports from Europe to overseas countries.

* This Bulletin is obtainable from all United Nations Sales Agents (Geneva, May, 1952, Bilingual edition—English/French).

ASSISTANCE OFFERED TO SELF-HELP BUILDERS

Sheffield Builders Pledge Support

PEOPLE in the Sheffield area wishing to build their own house in their own time and with their own labour will get the full support of the Sheffield Federation of Master Builders. MR. J. WOFFINDIN, chairman of the Federation, has promised them all the technical advice they may need.

The only objection from the Federation, he says, would be if self-help builders tried to employ builders' craftsmen in the evenings and at week-ends. Apart from their normal work suffering, workmen doing this would not be covered by insurance, and arrangements would have to be made for income-tax. The Yorkshire Federation of Master Builders of which Mr. Woffindin is vice-president, has also decided to help.

L.C.C.'s Decision

AT TUESDAY'S MEETING of the London County Council it was decided unanimously to give assistance to self-help housing associations, subject to certain conditions. The meeting approved a report on these associations which recommended the council to consider applications for loans in appropriate cases, the maximum period for repayment not to exceed 20 years.

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TRADE NEWS

Firm's Price Reductions

Avon Manufacturing (Warwick), Ltd., announce that, owing to a reduction in the cost of Sherardising and improved methods of manufacture, they are able to reduce their prices for roofing accessories by 5 per cent.

Classification of Timbers

An addendum to the "British Sawmilling Classification of Timbers" prepared and published by the National Sawmilling Association has now been published. Copies of this addendum, at 2s. 6d., post free, may be obtained from the Association at 14, New Bridge-street, London, E.C.4.

Apprentices' Visit to Tool Works

During the week ended July 12, parties of between 40 and 50 young men from the Hammersmith School of Building, Apprentices' Section, visited the works of S. N. Bridges and Co., Ltd., of Parsons Green-lane, S.W.6, in order to see and handle the portable electric tools of their trade made by this firm.

Structural Insulation

A thermo-structural material is being marketed by the Elfix Co. of Maidenhead, called "Elitherm." This is an insulation screed consisting of "Elfix" bitumen-coated cork granules cast in-situ with special cement grout. It can be used for floor or roof insulation, the "k" value varying with the percentage of cork granules; usually 50 to 75 per cent. of the cross section. It is claimed to withstand a load of 600 lb./sq. in. before fracturing.

LABORATORIES FOR CEMENT INDUSTRY, GREENHITHE

THE following sub-contractors and suppliers were employed in connection with the new research laboratories for the cement industry at Greenhithe, which are described and illustrated on page 88:—

Asphalt roofing, Excel Asphalte Co.; asbestos cement sheeting, Universal Asbestos Co. and Boddy Roofing Co.; balustrades and railings, Adrian Stokes, Ltd.; canteen cooking equipment, Falkirk Iron Co.; cast stonework, Stuart's Granolithic Co.; cement glaze, Robbs Cement Enamel Finishes, Ltd.; concrete blocks, Atlas Stone Co.; concrete bricks, Dunbrik, Ltd.; convector heaters, British Trane Co.; doors (internal), Shapland and Petter, Ltd.; electrical installation, Rashleigh Phipps and Co.; false ceilings, Tentest Fibre Board Co.; fibrous plaster, G. Jackson and Son; flooring—cork, Korkoid Decorative Floors; Missanda blocks and semastic tiles, Hollis Bros.; and terrazzo, Fenning and Co.; glass domelights, T. and W. Ide; glass bricks, Pilkington Bros.; heating and ventilating, Norris Warming Co.; ironmongery, Yannedis and Co.; joinery, P. H. Barker and Son, Ltd.; laboratory fittings, Baird and Tatlock, Ltd.; library shelving, Luxfer, Ltd.; lifts, Bennie Lifts, Ltd.; light fittings, General Electric Co.; planting and Kentish rag walling, Gilliam and Co.; sanitary fittings, Shanks and Co.; steel lockers, W. B. Bawn and Co., Ltd.; steelwork, Moreland Hayne and Co.; tiling (concrete), Standard Pavements, Ltd.; tiling (glazed), Cope and Co.; windows (aluminium), Williams and Williams, Ltd.; windows (wood), Jayanbee Joinery, Ltd.; wood-wool slabs, Gyproc Products, Ltd.

The SCOTTISH BUILDER

Scotland's Housing in May

TWO thousand, two hundred and seven new permanent houses were completed in Scotland in May, bringing the total of completions this year up to 10,704.

The number of new houses built in Scotland under the post-war programme now stands at 156,705 (124,529 permanent and 32,176 temporary). Including accommodation made available by the conversion and adaptation of existing premises, requisitioning, and in service camps, altogether 168,299 new homes have been provided.

These figures are included in the monthly housing return issued by the Department of Health for Scotland and the Ministry of Housing and Local Government and published on July 3 last by H.M. Stationery Office, price 2d.

Kilmarnock "Bonus" Scheme

POLICY ADOPTED in Kilmarnock to speed up construction has proved a valuable incentive. The anticipated construction period for 74 houses placed in February of last year was 12 months. The contractor was advised that completion before that period would result in his receiving rents payable by tenants who were housed, up to the 12 months. If he failed to complete the houses to schedule he in turn would pay the Council rents for the unoccupied and unfinished houses.

Starting work in April, the contractor had completed six houses by July and collected rents thereafter as a bonus for satisfactory and speedy construction. In subsequent months other houses were completed and rents drawn as a bonus. By the end of the 12 months, certain houses were incomplete owing to delays in materials and the contractor then became liable to pay rental to the Council on his uncompleted work. Employees of the contractor share in the bonus and are consequently co-operative in completing housing. The scheme is being adopted in other houses of the same type in the area.

Scottish Employers Federation

MR. J. W. TRAIN, of Glasgow, has been elected president of the Scottish National Building Trades Federation (Employers) at the annual meeting held in Glasgow recently. He succeeds Mr. R. S. Gray, of Dundee. New vice-presidents are Mr. James Leggat, Ayr, and Mr. J. B. T. Henderson, Glasgow.

School Heating Test

ROSS AND CROMARTY EDUCATION COMMITTEE have decided to try a new type of preheater in Dingwall Academy, which it is claimed will save about 15 per cent. in fuel. It is estimated that the initial cost of purchasing and installing it will be paid in two years by the saving effected.

The Brick Shortage

SCOTTISH AUTHORITIES are now asking contractors to submit details of allocations of bricks before placing contracts. This policy has been adopted to prevent final costs on housing being out of all proportion to original costs arising from the need to import bricks to make good shortages. The policy has been currently used by Edinburgh Housing Committee. Inference is that contracts will be placed only if the Committee is satisfied that local brick supplies can be used to complete.

NEW BUILDINGS

Aberdeen.—Corporation to erect new shops at Lambhill-terr., Northfield, and Abbotswell-cres., Kincorth. The architect is Alexander B. Gardner (F.), Council Offices, Broad-st., The Castlegate, Aberdeen.

Edinburgh.—Fairbrother, Hall & Hedges, LL.R.I.B.A., Barclays Bank-chbrs., Birley-st., Blackpool, have prepared plans for a new laboratory block which is to be erected for Messrs. Ferranti, Ltd., adjoining their existing premises. The est. total cost is £513,000.

Fifeshire.—Plans to be prepared for the East Regional Hospital Board's extensions to Windigates Cameron Hospital. The architect is James Holt Frew (F.), 6, Cambridge-st., Edinburgh, 8.

Glasgow.—Plans in hand for 156 houses which are to be erected at Royston housing estate. The architect is Archibald G. Jury (F.), Council Housing Offices, The Trongate, Glasgow.

Glasgow.—Plans in hand for alterations and additions at Helen-st., Govan, for the Rivet, Bolt and Nut Co., Ltd. The architect is John Galt (F.), 59, Bath-st., Glasgow.

Glasgow.—Plans prepared for scheme of flats to be erected at Scaraway-pl., Milton housing area, for which the architect is Archibald G. Jury (F.), Corporation Housing Offices, The Trongate, Glasgow, E.C.

Glasgow.—Plans to be prepared for new halls to be erected at Forfar-ave., Paisley-rd., Cardonald, for the Christian Brethren. The architects are J. Sinclair & Co., 350, Paisley-rd., Govan, Glasgow.

Greenock.—Plans in hand for new shopping scheme at Crawford-st., for which the architect is Robert L. Rankine, A.M.T.P.I., A.M.Inst.C.E., Master of Works Office, Municipal-chbrs., Wallace-sq., Greenock.

Lanarkshire.—Plans in hand for new buildings at the East Kilbride Industrial estate, for which plans have been prepared by the Industrial Estates, Ltd., 3, Woodside-cres., Woodlands-rd., Glasgow.

Thankerton.—Lanarkshire C.C. is to have a new scheme of houses erected at the Woodlands housing site, for which the architect is Samuel MacColl (F.), County-chbrs., Beckford-st., Hamilton.

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OVERSEAS BUILDING

Canada.—Nova Scotia and Ottawa have now come to an agreement about the Federal Provincial Trans-Canada Highway. The cost is to be shared equally by Nova Scotia and the Federal Government. The Nova Scotia section of the Highway, approximately 310 miles long, will follow the existing route through the Nova Scotia-New Brunswick border to the Strait of Canso with a branch turning off through Pictou to the Caribou Ferry terminal and then to the Newfoundland Ferry terminal at North Sydney via either St. Peter's or Baddeck highways. The route through Cape Breton is in abeyance pending further surveys. If it runs through Baddeck it will provide a modern highway entrance to both the Sydney area and the Cape Breton National Park.

Iraq.—The Iraq Development Board is inviting tenders for the structural shell of the Royal Palace which is scheduled to be built at Baghdad. Those taking up tenders should pay particular attention to local designs in building, although modern suggestions will not be ruled out. . . . The Development Board is also dealing with a British company for the construction of a 3,000 yards' runway for Baghdad airport. This is becoming one of the most developed airports in the Middle East and there is every possibility that future building on the airport within the perimeter will be undertaken soon . . . . A shoe factory is also scheduled for Baghdad.

Nigeria.—The Crown Agents for the Colonies, on behalf of the Nigerian Government, have placed a contract with Dorman Long of Middlesbrough, for a suspension bridge over the Cross River, Nigeria. The site of the bridge, which will carry the only road joining the Eastern Provinces of Nigeria to the British Cameroons, is about 120 miles from the West African Coast. The overall length of the bridge will be 590 ft. and the main span over the gorge through which the Cross River flows will be 350 ft. The value of the contract, which will require 500 tons of steel, is £315,000. The consulting engineers are Messrs. Coode and Partners of London.

Portugal.—There appears to be a hold-up on the work of the Portuguese Cavado Hydro-electric scheme. Reports in the Portuguese Press induce the belief that the work is being left in abeyance for the time being. A large part of the scheme has already been completed. The final stage in construction is still uncertain. It is thought that there may be a change in the final plans.

Turkey.—The Municipality of Istanbul, Turkey, has plans for the building of an hotel on the site of the burnt-out Ciragan Palace at Ciragan, Caddesi, Besiktas. The area of the site is 38,588 square metres and the situation is probably the finest in the Bosphorus region. The Municipality states that the firm making the most acceptable offer should construct and equip the hotel. Plans are not as yet available, but contractors interested in this project would be well advised to write direct to the Istanbul Municipality at the City Hall, Istanbul. Information will be given on request.

South Africa.—South Africa's largest dam, the Vaal Dam, is to be enlarged to enable more water to get to the Orange Free State goldfields. At present £67,524 has been allocated for construction. . . . Many factories are also scheduled for this area which will draw power from the dam.

The Builder

FUTURE CONSTRUCTION

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

JULY 16.

*†**Eastbourne B.C.**—Erection of 18 houses on Chatfield-Davis estate, Hampden-park, section 36. B.S., 2, Saffrons-rd. Dep. £2 2s. Tenders by Aug. 13.

JULY 19.

*†**Hendon B.C.**—Provision of accommodation for Civil Defence Corps H.Q. at "Hatchcroft," the Burroughs. B.E. & S., Town Hall. Dep. £2 2s.

JULY 21.

*†**Durham C.C.**—Repairs, alterations and adaptations to various schools. County A., Court-la.

*†**Durham C.C.**—Erection of M.O.W. hutting at various schools. County A., Court-la.

*†**Walthamstow B.C.**—Erection of 31 houses and 8 garages, with a block of 23 lock-up garages between Handsworth-ave., Falmouth-ave. and Gordon-ave., Highams-park. E. & S., Town Hall. Dep. £2 2s. Tenders by Aug. 11.

JULY 23.

*†**Merthyr Tydfil C.B.**—Erection of 127 houses and 32 flats on the Swansea-rd. housing site, contract No. 3. E. & S., Town Hall. Dep. £2 2s.

*†**Wolverhampton B.C.**—Erection of 100 dwellings within 12 months. B.E., Town Hall. Dep. £2 2s.

JULY 24.

*†**Swansea B.C.**—Erection of laboratory, Technical College, Mount Pleasant. H. T. Wykes (F.), Boro' A. Dep. £2.

JULY 25.

*†**Bristol C.C.**—New clinic at St. Anne's. City A., Council-hse., College-green, Bristol 1. Dep. £2 2s.

*†**Ipswich B.C.**—Erection of 28 flats at Maidenhall estate. B.S., 19, Tower-st. Dep. £3 3s. Tenders by Sept. 11.

JULY 26.

*†**Essex C.C.**—Erection of two flats and garages at Ashingdon-rd., Rochford. County A., County Hall, Chelmsford.

*†**Essex C.C.**—Erection of hutted classrooms at 14 primary schools. County A., County Hall, Chelmsford.

JULY 28.

†**Burton-upon-Trent C.B.**—Erection of 32 flats and road and drainage works on the Balfour-st. and Craven-st. housing site. B.S., Town Hall. Dep. £2 2s. Tenders by August 26.

*†**Lincoln City C.**—Conversion of Burton Cliff-hse., Burton-rd. City A., Stamp-end. Dep. £2 2s.

JULY 30.

*†**Bromley B.C.**—Erection of eight shops and 30 old people's dwellings at the Hayes-pl. estate. B.E., Municipal Offices. Dep. £2 2s.

Huntingdon T.C.—Erection of 27 houses at American-la. site, scheme No. 4. Lea, Milner & Wardley, architects, 4, Market-hill. Dep. £2 2s.

Kincardine C.C.—Erection of 40 houses at Marketstance, Banchory, and four houses at Inchmarls. County A., 34, Market-sq., Stonehaven.

JULY 31.

*†**Newcastle Regional Hospital Board.**—Alterations, thoracic theatre block, Shotley Bridge hospital. Secretary, "Dunira," Osborne-rd., Jesmond, Newcastle-upon-Tyne, 2.

*†**Newcastle Regional Hospital Board.**—New preliminary training school for nurses, S. Shields General Hospital. Secretary, "Dunira," Osborne-rd., Jesmond, Newcastle-upon-Tyne.

*†**Tottenham B.C.**—Erection of public library, 16, maisonettes and 3 old persons' flats at the High-rd./Brereton-rd. site. B.E. & S., Town Hall. Dep. £2 2s.

*†**W. Mersea U.D.C.**—Construction of roads and erection of 22 houses at East-rd. building site. Sparrow & Chater, A/As., 7, North-hill, Colchester. Dep. £2 2s. Tenders by Aug. 22.

AUGUST 1.

*†**Glasgow Corpn.**—Erection of 495 flats in four contracts at Garthamlock housing scheme. Dir. of Housing, 2nd floor, 20, Trongate, Glasgow, C.1.

AUGUST 2.

*†**Carlisle City C.**—Erection of a junior school on Harraby neighbourhood unit. City S., 18, Fisher-st. Dep. £2 2s.

New Mills Council.—Erection of 13 bungalows on the Highfield housing estate. Council S., Town Hall. Dep. £2 2s.

Stroud U.D.C.—Construction of four bungalows at Cashes Green. Foster Langley, E. & S., Council-chhrs., High-st.

AUGUST 4.

*†**Widnes B.C.**—Erection of 36 dwellings comprising section 1B of Ditton neighbourhood unit. Bor' A., Brendar-hse., Widnes-rd. Dep. £5 5s.

AUGUST 5.

*†**Heston and Isleworth B.C.**—6 flats at Cecil-rd. B.E. & S. Dep. £3 3s. Tenders by Sept, 1.

AUGUST 6.

*†**Wandsworth B.C.**—144 dwellings, Clapham-rd., S.W.4. R. H. Jerman, T.C.

AUGUST 7.

Norham and Islandshires R.D.C.—Erection of 22 houses at Cornhill Village. Gray & Paterson, architects, 11, Castlegate, Berwick-on-Tweed. Dep. £3 3s.

AUGUST 8.

*†**Stepney M.B.C.**—Erection of a welfare centre and library building in Library-pl., Cable-st. B.E. (S., Municipal-offices, 227-233, Commercial-rd. Dep. £5 5s.

*†**W. Riding Joint Comm.**—Erection of 9 police houses on three sites. County A., "Bishopgarth," Westfield-rd. Dep. £2 2s.

AUGUST 9.

*†**Saffron Walden R.D.C.**—Erection of 10 houses at Langley. T.C., Council-offices, Debden-rd.

*†**Stretford B.C.**—Roof repairs to Stretford Baths, Cyprus-st. Boro' S., Town Hall. Dep. £2 2s.

AUGUST 11.

*†**Bicester U.D.C.**—Erection of 28 houses, together with roadworks, etc., on the Bucknell-rd. site. Harry W. Smith & Son, F. & A.R.I.B.A., 29, George-st., Oxford. Dep. £2 2s.

AUGUST 12.

*†**W. Sussex C.C.**—Erection of (1) temporary county primary school unit in prefab. timber construction, and site works on the Ham-field site, Shoreham; (2) 2 classrooms and a staff room at Steyning grammar school.

AUGUST 13.

Norfolk C.C.—Erection of six police houses and two fire service houses at various sites. County A., 27, Thorpe-rd., Norwich.

AUGUST 16.

*†**Melksham U.D.C.**—32 houses, Woodrow Park estate. E. & S. Dep. £2 2s.

Pickering R.D.C.—Erection of two houses at Great Barugh. Council Offices, 20, Eastgate. Dep. £2 2s.

AUGUST 21.

*†**Berkshire C.C.**—Erection of new primary school near Jock's-la., Bracknell. County A., Wilton-hse., Parkside-rd., Reading. Dep. £2 2s.

SEPTEMBER 8.

*†**Hastings Corpn.**—Erection of 102 houses and 5 blocks of 2-storey flats at Horley Shute estate. St. Leonards. Boro' E., 37, Wellington-square. Dep. £3 3s

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NO DATE.

*†**Castle Donington R.D.C.**—12 houses. McCarthy Collings & Co., architects, 187, Forest-rd., Coalville. Dep. £2 2s.

*†**Ongar R.D.C.**—18 houses, Shelley estate. E. & S. Dep. £2 2s.

*†**Oswestry R.D.C.**—Erection of 38 houses with roadworks and sewage plants. Messrs. Walker, F/A., 83, Suffolk-st., Birmingham 1. Dep. £3 3s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

JULY 19.

*†**Wigan C.B.**—Part demolition of property known as 31 and 33, Millgate and 29, The Wiend. B.E., Hawlett-st.

JULY 21.

*†**Durham C.C.**—Provision of hot water heating and domestic supply to various schools. County A., Court-la.

*†**Southampton C.B.C.**—External redecorations for Shirley junior and infants' school. Boro' A., Civic-centre. Dep. £1. Tenders by July 31.

JULY 25.

*†**Merton and Morden U.D.C.**—Resurfacing of bituminous flat roof of the Sir Joseph Hood Memorial playing-field pavilion, Marina-ave., New Malden. E. & S., Morden Hall.

JULY 26.

*†**Slough. B.C.**—External painting of the annexe and stable block at Baylis-hse., Stoke Poges-la. B.E., Town Hall.

JULY 29.

Maidstone B.C.—Electrical installation in 44 houses at Shepway housing estate in three contracts. B.S., Palace-ave.

JULY 31.

Stoke-on-Trent Corporation.—City S. (Materials.)

AUGUST 1.

*†**Ruislip-Northwood U.D.C.**—Laying of 160 sq. yds. of hardwood block flooring, Windmill Hall, Ruislip. E. & S. Dep. £1 1s.

*†**Welwyn Garden City U.D.C.**—External painting of part of housing scheme No. 4, comprising 74 houses. Hsg. Mgr., Council-offices.

AUGUST 2.

West Riding of Yorkshire C.C.—County E. & S. (Materials.)

AUGUST 5.

*†**E. Riding C.C.**—Supply and laying of semastic tile and semtex flooring at Cottingham county sec. sch. County A., County Hall, Beverley. Dep. £2 2s.

AUGUST 8.

*†**Stepney M.B.C.**—Electrical installation for 124 dwellings at Cornwall-st. housing area. B.E. & S., Municipal-offices, 227-233, Commercial-rd., E.1. Dep. £5.

AUGUST 15.

Stepney M.B.C.—R.c. floors, roofs, balconies, etc., for 124 dwellings at Cornwall-st. housing area. B.E. & S., Municipal-offices, 227-233, Commercial-rd.

AUGUST 18.

*†**E. Riding of Yorkshire C.C.**—Heating, water and gas services at Cottingham county sec. sch. County A., County Hall, Beverley.

AUGUST 29.

Leyton B.C.—Bricking-up of rag-and-bottle picking sheds at destructor-works, Auckland-rd. B.E. & S., Town Hall. Dep. £2 2s.

SEPTEMBER 1.

*†**Brighouse B.C.**—Shopfitting for 4 shops, Stoney-la. estate, Lightcliffe. B.E. & S., Commercial-st.

ROADS, SEWERAGE AND WATER WORKS

JULY 28.

New Sarum T.C.—Construction of roads, surface water sewers and soil sewers on the Bemerton Heath housing estate. City E., The Council House, Bourne Hill, Salisbury. Dep. £2 2s.

Westhoughton U.D.C.—Supplying and laying of approx. 13,500 sq. yds. of two-coat hot-rolled asphalt surfacing on Newbrook-rd (A.579). E. & S., Town Hall. Dep. £1 1s.

AUGUST 2.

Godalming B.C.—Supply, laying and jointing of water mains at Binscombe Farm housing estate. Water E., Branksome, Filmer-gr., Nightingale-rd. Dep. £2 2s.

Thetford B.C.—Roads and sewers on Bury-rd. (No. 2) site. Bond & Son, architects, St. Faith's House, Mountergate, Norwich. Dep. £3 3s.

AUGUST 6.

Gravesend B.C.—Roads and sewers at Westcourt estate extension, stage 3. B.E. & S., 6, Woodville-terr. Dep. £2 2s.

AUGUST 9.

Newton-le-Willows U.D.C.—Resurfacing of trunk road A.49. E. & S., Market-chbrs., Market-st. Dep. £2 2s.

AUGUST 16.

Calne and Chippenham R.D.C.—Laying of water main at Stockley. E., Bewlay House, Marshfield-rd. Dep. £2.

AUGUST 25.

Truro R.D.C.—Laying of water mains at Chasewater and S.W. district water scheme. G. Osmond, consulting engineer, Trevemper Lodge, Newquay. Dep. £3 3s.

SEPTEMBER 1.

*†**Cuckfield R.D.C.**—Site preparation at Hassocks housing site No. 2, contract No. 85. E. & S.,

Council-offices, Boltro-rd., Haywards Heath. Dep. £2 2s.

NO DATE.

Brigg U.D.C.—Reconstruction and extension of sewage disposal works, John H. Haiste & Partners, consultant engineers, 4, Queen-sq., Woodhouse-la., Leeds, 2. Dep. £3 3s.

St. Helens B.C.—Construction of Parr sewage works, contract W.1. Sandford, Fawcett & Partners, 53, Victoria-st., London, S.W.1. Dep. £5 5s.

GENERAL BUILDING WORK

(LONDON)

Camberwell.—SITE FOR HOUSING.—L.C.C. Housing Com. propose to acquire for housing purposes a site of about 1,913 acres in Nunhead-cres.

Deptford.—DWELLINGS.—Bridgewater & Shepheard, F.R.I.B.A., 42, Bruton-pl., W.1, are the architects for 314 dwellings which are to be erected in Grove-st.

Hampstead.—FLATS.—A scheme for 12 flats, with garages and storage sheds, which has been prepared by Armstrong & MacManus, FF.R.I.B.A., 19, Manchester-sq., W.1, has been approved by L.C.C. Housing Com. Est. cost £25,300.

Hampstead.—FLATS, MAISONETTES, HOUSES.—A scheme prepared by Louis de Soissons & Partners, A.R.A., F.R.I.B.A., 3, Park-square-mews, N.W.1, for development of the Finchley-rd. No. 1 (West) site, has been approved by L.C.C. Housing Com. It comprises 84 flats, 254 maisonettes, 12 semi-detached houses, garages, workshops, etc. Est. cost, £841,100.

Hounslow.—FLATS.—British Airways Housing Society are to erect 101 staff houses on a site on the Great West-rd.

Paddington.—FLATS.—Plans have been completed by the B.C. for the erection of 152 flats on Hall-park housing site, Edgware-rd.

Paddington.—FLATS.—A scheme for a block of flats on the Fulham-pl. site is being prepared by the B.C.

St. Marylebone.—HOTEL.—L.C.C. have approved plans for the erection of an hotel on the island site bounded by Gloucester-pl., Upper Berkeley-st., Montagu-st. and George-st., prepared by Major A. S. Ash, F.R.I.B.A., 66, Gt. Cumberland-pl., W.1.

Shoreditch.—FLATS.—Boro' E. has prepared plans for 144 flats which are to be erected on the Pitfield estate, Hoxton.

Shoreditch.—DWELLINGS.—Plans for 40 dwellings at Avebury-st. have been prepared by the Boro' E.

St. Marylebone.—MAISONETTES.—A loan of £8,000 is to be given by B.C. to Mr. J. Jackson, 34, Montagu-sq., to convert No. 35, Montagu-sq. into 4 maisonettes.

St. Marylebone B.C.—FLATS.—Clifford Culpin & Partner, F.R.I.B.A., 3, Southampton-pl., W.C.1, have prepared a scheme for 34 flats to be erected by B.C. in Abercorn-pl., St. John's Wood.

Stepney-Poplar. — FLATS. — Plans prepared by Bridgewater and Shepheard, F.R.I.B.A., 42, Bruton-pl., Berkeley-sq., W.1, for 45 flats with 22 tenants' storage sheds at site No. 3 in Lansbury (Stepney and Poplar), have been approved by L.C.C. Housing Com. Est. cost, £90,300.

Wandsworth.—DEVELOPMENTS.—Revised layout for Wendelsworth estate by Lovatt Gill (F.), 41, Russell-sq., has been approved by B.C.

Wandsworth.—FLATS.—B.C. approve the erection of 84 flats, phase 3 of development of Roupell-park estate, Streatham, at £189,313.

Wandsworth.—SCHOOL.—T.P. Com. have approved the extension of Putney county secondary school, "Mayfield," West Hill, by the L.C.C.

Wandsworth.—FLATS.—Planning approval has been given to the erection by L.C.C. of a block of flats at the site of Nos. 37-41, Thrale-rd.

(PROVINCIAL)

Ashbourne.—U.D.C. propose new attested cattle market.

Ashton-in-Makerfield.—U.D.C. propose erection of new swimming baths. Plans by the Surveyor, H. S. Halpin.

Birmingham.—T.C. recommended to approve day nursery at corner of Summer-la. and Transport-st., at £12,000.

Blackpool. — B.C. preparing quantities for 12 houses and eight flats at Mereside.—T.C. to prepare plans for six shops at Mereside.

Carlisle.—State Management Com. are planning erection of a public-house on Harraby neighbourhood unit.—City E. (L. J. A. Stow) is preparing plans for four shops on Belah estate.—Plans have been prepared by Graham & Roy, 6, Paternoster-row, Carlisle, for workshop additions for R. Hind, Ltd.—City Council is negotiating price with J. Laing & Sons, Dalston-rd., Carlisle, for 76 terrace houses at Harraby.

Carlisle.—J. Laing & Sons, Dalston-rd., Carlisle, and G. Wimpey & Co., Ltd., London, have been invited by City Council to submit tenders for 100 "Easiform" and "No Fines" houses, respectively, at Upperby Village.

Chester. — T.C. to seek loan of £88,224 for 73 houses at Blacon.

Chesterfield.—T.C. to issue block licences to Mr. F. Durham for erection of five houses at Brearley-ave., New Whittington, 11 to Robson & Sons, Ltd., and 11 to Birtley & Co., Ltd.

Corby. — U.D.C. propose 15 shops in shopping centre and three groups of five distributed over the site; also 16 shops at Welland Vale scheme. —U.D.C. propose 400 houses in 1953.

"THE BUILDER" PRICES

LEAD PRODUCTS

Following the decrease to £131 per ton in the Government-controlled price of lead as announced by the Ministry of Materials, the Associated Lead Manufacturers, Ltd., have altered the basic prices of their lead products as follows :

	To-day's Basis Price per ton £ s.
Genuine English dry white lead (1 x 8 cwt. cask)	165 0
Genuine ground English white lead (1 x 5 cwt. cask)	184 10
Genuine refined English red lead (1 x 5 cwt. cask)	154 0
Genuine English powdered litharge (1 x 5 cwt. cask)	154 0
Genuine refined English red lead ground in oil (1 x 5 cwt. cask)	178 10
English sheet lead (1 ton lots)	155 5
English lead pipe (1 ton lots)	156 10
English lead shot (1 ton lots)	162 0

JULY COPPER PRICE

The Ministry of Materials announces that it has completed arrangements with its Commonwealth Suppliers for the continuation of the present copper price throughout the month of July, 1952. The Ministry's selling price of £287 per ton can therefore be regarded as stable at least until the end of the month.

TUNGSTEN ORE

The Ministry of Materials has announced that from July 12 its selling price for tungsten ore of standard 65 per cent. grade and ordinary quality has been further reduced fr m 467/6 to 447/6 per long ton unit delivered consumers' works based on the current buying price of 425/- per long ton unit c.i.f.

Coventry.—T.C. preparing plans for new civic theatre, Warwick-row.

Dudley.—B.C. to issue licence to Dudley Housing Association, Dudley, for block of 10 flats at Claughton-rd.

Durham.—City Council is seeking loan sanction for £203,363 for 150 houses at Framwellgate Moor.

Durham.—County A., Court-la., Durham, is to prepare a sketch plan of a proposed community centre at Burnopfield in the Stanley U.D.C. area.

Eston.—U.D.C.'s estimates for erection of 124 houses, Redcar-rd. East, have been approved by M.H. and L.G.—U.D.C. to build four shops and flats, Dalton-rd., Grangetown. N. C. Harrison, Surveyor.

Eston (Yorks).—U.D.C. intends acquiring compulsorily about 15½ acres on Lowfields estate for housing.—U.D.C. has approved a layout plan by the Surveyor (N. C. Harrison) for 176 houses on an extension of the Redcar-rd. East housing scheme.

Felling (Co. Durham).—U.D.C. Housing Officer (R. Morton) has prepared plans for 70 houses at Fisherwell-rd., Pelaw.

Felling-on-Tyne.—U.D.C. to build 124 more houses on the Ellen Wilkinson estate.—U.D.C. to build 20 houses in Chilside-rd. Surveyor, H. Fawcett.

Garstang.—R.D.C. approved in principle erection of maternity and child welfare clinic at Pilling. —Propose 34 houses at School-la., Forton.

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Gateshead.—Corpn. has received sanction to a scheme of alterations to Fountain View, a home for old people, to cost £60,000. Expenditure this year, however, is to be limited to £3,500. Plans by Boro' A., H. J. Cook.

Gateshead.—E.C. has received loan sanction for £168,823 for 2nd stage of new Tech. College scheme. —Next year E.C. intends building Hill Head Sec. Mod. Sch.; Old Durham-rd. R.C. Grammar and Tech. Sch.; Leam-la. Inf. and Jnr. Sch.; and Greenwell Sec. Mod. Sch. H. J. Cook, Chief A.

Heanor.—U.D.C. to erect 40 houses off Upper Dunstead-rd., Godkin Farm estate.

Hebburn-on-Tyne.—U.D.C. Surveyor (R. C. Bestow) has prepared plans for 44 houses on Campbell Park housing scheme extension. A contract will be let shortly.

Jarrow-on-Tyne.—Final plans for the proposed Alnwick-gr. R.C. Sch. have been submitted to M. of E. Architect is Robert Burke, 10, Lambton-rd., Jesmond, Newcastle-on-Tyne.

Kent.—Kent Education Committee's draft building programme for 1953-4, to be submitted to the Ministry of Education for approval, involves expenditure of £1,396,000. The programme includes the erection of new primary and secondary schools and the extension of existing schools. The work will be carried out at Chislehurst, Orpington, Crayford, Dartford, Swanley, Gravesend, Paddock Wood, Sevenoaks, Southborough, Maidstone, West Malling, Wrotham, Hoo, Rochester, Sheerness, Folkestone, Hythe, Dover, Broadstairs, Bexley-heath and Gillingham.

Lancaster.—T.C. received Ministry approval for 212 houses at Ridge estate.—Congregational Church propose new church at Hala estate, Scotforth.

Long Eaton.—U.D.C. approved erection of 100 houses at Petersham-rd. estate.

Middlesbrough.—Boro' E. is preparing revised plans for a maternity and child welfare centre at Thorntree and a welfare hostel at Thorntree.

Middlesbrough.—Sketch plans have been prepared for additions to the dispensary at North Ormesby Hospital for Newcastle Hospital Board.

Newcastle.—J. Oswald & Sons, Northumberland-st., Newcastle-on-Tyne, are architects for offices in Forth-st., Newcastle, for R. H. Patterson & Co.—J. Rowell & Sons, Ltd., Gateshead Brewery, have had plans approved for a new hotel in Whickham View. Architects, Wetherell & Lamb, Picton-pl., Newcastle.

Newcastle-on-Tyne.—Watch Com. are to build a section police stn. in Welbeck-rd. Plans by W. Hand, City Property Surveyor.—The North-Eastern Electricity Brd. are to extend the power stn. in Benton-rd. Plans by the Brd. staff, 80, Jesmond-rd., Newcastle.—A warehouse is to be build in Eldon-la. for J. Farnon, Ltd. Architect, J. G. Cowe, Central-chbrs., Chester-le-Street, Co. Durham.

Newcastle-on-Tyne.—Two sites are to be appropriated by City Council on Montagu housing estate for erection of old people's hostels. City A., G. Kenyon, 18, Cloth-market, Newcastle.—78 flats are to be erected by City Housing Com. on north and south sides of Armstrong-rd. Plans by City A.—City Council received loan sanction for £9,595 for nine old people's houses, Slatyford-la.

Newcastle-on-Tyne.—Newcastle Breweries, Ltd., Haymarket, Newcastle, are to carry out alterations to the "Spital Hotel," Neville-st., and have prepared own plans.—Dryden & Shaw, 6, Market-st., Newcastle, prepared plans for 16 houses, Stamford-ham-rd. and Bavington-dr., for Carr & Kirk, Ltd., builders, Stocksfield-ave., Newcastle.—Plans are being prepared by C. Solomon, St. Mary's-pl., Newcastle, for a factory, Blenheim-st., for Messrs. Stein. —M. Gatoff, Trafalgar-st., Newcastle, is architect for warehouse and offices in Fisher-st.—City Council to erect 33 houses on section D of the Montagu estate to plans by the City A., 18, Cloth-market, Newcastle.

Northampton. — R.D.C. propose erection of 22 houses at Hackleton.

Northants.—E.C. seek approval to include the new Weston Favell Sec. Mod. Sch. for Boys and the first instalment of the Tech. High Sch., Northampton, in building programme for 1953-4.

Nottingham.—T.C. approved 1953-4 schools building programme as follows: Clifton Inf. No. 3; Clifton Jnr. No. 3; Sneinton Boulevard Sec. Boys; Aspley Park-dr. Sec. Mixed; Clifton Sec. Mixed No. 2; Fernwood Inf., Wollaton; Squires-ave. Sec. Girls; Bulwell Meadows Sec. Mixed; Ransom-rd. Sec. Mixed; Daybrook Vale Sec. Girls; Sec. Sch. at Wollaton Park and Special Sch. for Sub-normal Girls.

Oswaldtwistle. — U.D.C. approved plans for 16 aged persons' bungalows at Lime-ave.

Penrith.—Cumberland C.C. propose County Sec. Sch. at Halfway House.

Pudsey.—B.C. approved layout for 32 flats adjacent to present flats at Meadowhurst.

Rochdale.—B.C. propose 22 shops with flats over at Kirkholt estate.

Rochdale. — Rochdale and District Hospital Management Com. propose new casualty dept. at the Infirmary; seek approval to go ahead immediately with modified scheme, as main scheme has been deferred due to steel shortage.

Runcorn. — R.D.C. propose 50 "Cornish Unit" type houses at Cobbs Farm estate and 50 at Ship-st. estate, Frodsham.

Salford.—T.C. approved erection of new warehouse, Meadow-rd., Broughton, for Bradford Dyers' Association.—Houses at 348-364, Bury New-rd., for East Lancs T. and A.F. Association.—T.C. propose erection of day nursery at Hayfield-ter.

Seisdon.—R.D.C. preparing schemes for erection of further 324 houses.

Sheffield. — W.R.C.C. propose branch library at junction of Margetson-cres. and Knutton-rd., Eccleshill estate.

South Shields.—T.C. has submitted plans to the M.H. for proposed alterations to premises in Stanhope-rd. for proposed welfare services. The work is to be done in two stages.—Factory alterations are proposed on Bede trading estate for Thermotank, Ltd. to plans by Cackett, Burns Dick & McKellar, 21, Ellison-pl., Newcastle-on-Tyne.

Stanley (Co. Durham).—Alterations are proposed to the "Royal Hotel" for Robert Deuchar, Ltd., 146, Sandyford-rd., Newcastle-on-Tyne.

Stone.—R.D.C. approved erection of aged persons' bungalows at Beechfields, Barlaston; propose erection of four shops at Blythe Bridge.

Sunderland.—A quantity surveyor is to be appointed by T.C. for erection of five shops and flats at Farringdon and five at Hylton Red House. Tenders will be obtained shortly.—H. C. Bishop, Boro' A., Grange House, Stockton-rd., Sunderland, has prepared plans for classroom at Havelock Inf. Sch.—E. M. Lawson, Barras-bldgs., Barras Bridge, Newcastle-on-Tyne, has prepared revised plans for alterations to Monkwearmouth Brewery.—Boro' A. has prepared a layout plan for a new housing site at Grindon, where it is proposed to erect 1,800 houses.

Tynemouth.—Haswell & Son, Tyne-st., North Shields, have prepared plans for semi-detached flats in Percy-st. for Benjamin Peel, Ltd., builders, East Mill Works, North Shields.

Wakefield.—T.C. approved layout for 100 houses at Kettlethorpe estate.

Wallsend.—T.C. to build 144 dwellings, including bungalows and flats. Plans by Boro' S., G. Teasdale.

Wem.—R.D.C. propose erection of six houses at Bridlewaygate.

West Lancs.—R.D.C. approved development of 80-acre housing estate at Kirkby Trading Estate, for Liverpool T.C.

West Riding.—C.C. propose new classrooms at following schools: Whitcliffe Mount Grammar, Cleckheaton; Holmfirth Sec.; Cross Hall Prim., Morley; Staincliffe C. of E., Batley; Sunnyside Prim., Bramley; Richardshaw-la. Inf., Pudsey; Birkenshaw C.E.; Guiseley C.E. and Outwood Jnr., Wakefield.

Whitby.—U.D.C. is to negotiate price with Mollekin Brothers, West Parade-rd., Scarborough, for erection of 23 houses at The Mount, Whitby.

Whitley Bay.—J. R. Sherwood, 226, Park-view, Whitley Bay, is architect for proposed guest house at Beach ave.

Wigan. — E.C. to appoint architect to prepare plans for new Springfield Sec. Mod. Sch.

Wrexham.—T.C. propose erection of shops and community centre at Queen's Park estate.

Wrexham.—Hospital Management Com. propose improvements at Maelor General Hospital.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Accrington. — 8 blocks of flats at Burnley-rd. site, for T.C.: *Geo. Wimpey & Co., Ltd., London, £143,478.

Ashton-in-Makerfield. — Further 58 houses at Landgate-la. site, for U.D.C.: *Direct labour, £71,260.

Barlaston (Staffs). — 12 houses and 4 flats at Wedgewood estate, for Josiah Wedgewood housing association. Architects, Hollins, Jones & Oldacre, Stoke-on-Trent: *Sambrook (Burslem), Ltd., Stoke-on-Trent, £32,140.

Barnard Castle.—Erection of 40 houses at Staindrop No. 2 site, for R.D.C. J. Lawton, architect, 45, Galgate:—

E. Dodds & Sons, Richmond, Yorks ...	£60,890
R. Blackett & Son, Ltd., Darlington ...	60,538
Middleton & Co. (Blackpool), Ltd., Darlington	58,632
R. C. Williamson (Durham), Ltd., Co. Durham	58,463
*F. Shepherd & Son, Ltd., York	58,338

Barrow-in-Furness.—136 houses on the Ormsgill housing estate extension, for B.C. B.E. & S., Town Hall. J. N. Flitcroft, A.M.Inst.C.E., B.E. & S., Town Hall: *Barrow-in-Furness Corporation Building Manager, Salthouse-rd., Barrow-in-Furness, £195,667.

Blackpool. — Dwellings at Mereside, for T.C. 4 houses and 8 flats: *J. Halstead, Ltd., 19, Highfield-rd., £12,896; 4 houses and 8 flats, *W. R. Ward & Co., 293, Whitegate-dr., £12,853; 4 houses, *T. Bannister & Sons, 176, Queen's-dr., £6,811; 2 houses and 4 flats, *Wilkinson Bros., Ltd., £6,440; 2 houses and 4 flats, *Brook Construction Co., Ltd., £6,440.

Bootle.—Houses, for B.C.: 116 "No Fines," *G. Wimpey & Co., Ltd., London, £166,492; 100 houses and 16 "Wates" houses, *Holland and Hannen & Cubitts, Ltd., Liverpool, £136,000 and £12,599; 44 "Easiform" houses, 40 houses and 14 houses, *Lloyd & Cross, Ltd., Argyle-st., Birkenhead, £62,853, £57,615 and £13,586; 22 houses, *Direct labour, £19,942; 12 houses, *W. B. Clare, Liverpool, £17,604.

Brentford.—Erection of 8 shops and 14 maisonettes in Brentford High-st.: *N. Sinclair, Ltd., 80-82, Uxbridge-rd., Ealing, £51,513.

Brighouse.—34 houses at Rostrick (Field-la.) housing site: *Rowland Lumb & Co., £45,219.

Burnley.—10 houses and 8 flats at Far Brunshaw estate, for B.C.: *Russell Bros., Ltd., Wades House-rd., Nelson, £24,368.

Burton-on-Trent.—99 dwellings at Ashby-rd., for T.C.: *Wilson Lovatt, Ltd., Clarence-st., Wolverhampton.

Campbeltown.—Erection of 100 houses on the Crosshill Meadows housing site. J. Austin Bent (A.), architect, 15, Palmerston-pl., Edinburgh: *Weir's Housing Corpn., Ltd., Coatbridge.

Cannock. — Completion of extensions at County Mining College: *A. & R. Astbury, Ltd., Bridgtown, Cannock, £23,895.

Carlisle.—32 houses at Harraby, for City Council. City E., L. J. A. Stow, 18, Fisher-st., Carlisle: *John Laing & Sons, Dalston-rd., Carlisle, £39,710.

Carmarthenshire.—New workshops at Pibwrlwyd rural technical institute, nr. Carmarthen. W. T. Lloyd, A.R.I.B.A., County A., County Hall, Carmarthen. Quantities by W. T. Hills & Co.: *J. M. Evans, Ltd., Blue-st., Carmarthen.

Chertsey. — 32 houses, Spinney Hill estate, for U.D.C. W. V. Davies, F.R.I.C.S., M.I.Mun.E. Quantities by E. C. Harris & Partners: ‡E. Clarke & Sons, Ltd., Addlestone, £43,662.

Chester.—8 houses at Barrow, for R.D.C.: *Irby Estates, Ltd., Irby, Cheshire, £10,921.

Colne. — 10 houses at Woryn-ave., for T.C.: *Direct labour, £6,949.

Derby.—16 flats at Mackworth estate, for T.C.: *Vic Hallam (Contractors), Ltd., Valley Works, Langley Mill, £18,672.

Dudley.—Bathrooms and w.c.s to 50 houses at Brewery Field, for B.C.: *Jakeman & Round, Hellier-st., Dudley, £22,085; 40 Gregory flats at Belper Row site, for B.C., *J. Harper & Sons (Blackheath), Ltd., Blackheath.

Dumbartonshire.—C.C. to erect 138 houses, est. to cost £100,955, on various housing sites, Benjamin P. Gibb, F.R.I.B.A., County A., County-chbrs., College-st., Dumbarton: *The Weir Housing Corpn., Ltd., Coatbridge.

Durham.—M. of E. has approved C.C.'s plan for a new sch. at New Penshaw: *Holland & Hannen and Cubitts, Ltd., Howdon-on-Tyne; and an infants' sch. at Usworth: *Tarslag, Ltd., Stockton-on-Tees.

Glasgow.—Erection of an office at Blythswood, for the Widows' Fund and Life Assurance Society: Wylie, Shanks & Wylie (F. & A.), 120, Blythswood-st., Glasgow: *Thomas Stewart, Ltd., Langside, Glasgow.

Glasgow.—Plans in hand for new business premises to be erected at Blairdardie-rd., Knightswood. Norman MacFadzean (F.), 137, West Regent-st., Glasgow: *John Lawrence (Glasgow), Ltd., Glasgow.

Goole.—Erection of 16 houses at Ridding-la., Rawcliffe, for R.D.C.: *Messrs. Platt & Featherstone, £21,033.

Gt. Yarmouth. — Houses at Magdalen College estate, Gorleston, for C.B. H. F. Dyson, M.B.E., M.I.Mun.E., B.E. and S., Town Hall. Quantities by Philip Pank, 15, Lower-cl., Norwich: 18 houses, *H. R. Middleton & Co., Ltd., Market Works, The Conge, Gt. Yarmouth, £21,519; 18 houses, *J. Cooper, "Panama," Burgh-rd., Gorleston, £21,791; 6 houses, *E. F. Lamb, Estcourt-rd., Gt. Yarmouth, £7,303; 6 houses, *Juby Bros., Ltd., 248, Southtown-rd., Gt. Yarmouth, £7,242; 6 houses, *Mrs. E. M. Rushmer, 39, Church-la. West, Gorleston, £7,246.

Heanor.—22 houses off Hardy-cres., Codnor, for U.D.C.: *J. Bullock & Son, Ilkeston-rd., Heanor, £28,131.

Hove.—72 flats on St. Helen's estate, for B.C. T. R. Humble, A.M.I.C.E., Boro' S.: *H. J. Paris, Ltd., 210, Church-rd., Hove, £78,112.

Huntingdon.—Erection of five pairs of houses and three pairs of bungalows at Bampton, for R.D.C. K. A. Milner, L.R.I.B.A., 4, Market-hill:—

Pettits, Ltd., Godmanchester, Hunts ...	£22,647
L. Murphy, Harrow, Middx.	22,463
Stanley Brawn, Ltd., Ermine-st., Huntingdon	22,300
*Brudenell, Ltd., Godmanchester, Hunts ...	20,167

Kesteven.—Adaptation of Buckminster Hall, Billington, as a children's home, for C.C.: *F. Hossack & Son, Ltd., Ruskington, £7,000.

Lichfield.—6 shops, 8 flats and maisonettes and 8 smaller dwellings, for T.C.: *Sabin & Young, Ltd., Pelsall-la., Walsall, £17,984 and £11,520.

Liverpool.—Conversion of premises at Ullett-rd. as a nurses' home, for Regional Hospital Board: *H. Lucas & Sons, Ltd., 63, Tithebarn-st., Liverpool, £8,734.

Liverpool.—Houses, for T.C.: 18 flats at Cornwallis-st., *F. C. Bloomfield & Co., Ltd., 71, Almonds Green, £38,220; 16 flats at Warwick-gdns., *Direct labour, £25,150; 8 houses at Brook House estate, *W. A. McDonald & Co., Ltd., 157, Brekfield-rd. North, £13,622; 7 houses at Princes Park area, *Southend Builders & Decorators, Ltd., Greig-st., £11,900.

L.C.C.—Erection of 266 flats and other works at Frampton Park estate (West), Hackney. The ancillary works include 131 tenants' store sheds, a laundry with a tenants' clubroom above, 12 garages and two children's fitted playgrounds. The bills of quantities for eight of the blocks and other works (contract A) will be used to value the cost of the rest of the work (contract B). The amounts for contract A being as follows:—

*Halse & Sons, Ltd., Woolwich	£362,665
Rush & Tompkins, Ltd., Sidcup	366,831
Patman & Fotheringham, Ltd., Islington	368,411
Tersons, Ltd., Finsbury	373,977
Sir Robert McAlpine & Sons, Ltd., Westminster	375,521
Rowley Bros., Ltd., Tottenham	376,039
Kirk & Kirk, Ltd., Wandsworth	378,000
C. Miskin & Sons, Ltd., St. Albans ...	378,554
Thomas & Edge, Ltd., Woolwich	390,870
Gee, Walker & Slater, Ltd., Westminster	407,477
A. T. Rowley (London), Ltd., Tottenham	412,529
Prestige & Co., Ltd., Westminster	414,372

For contract A, the comparable estimate of the appointed architect, Mr. W. A. Cessford Ball, is £374,870. On the basis of the prices in the lowest tender, the estimated cost of the work in contract B is £144,921.

¶London (Admiralty).—Particulars of contracts placed by Civil Engineer-in-Chief's Dept., Admiralty. *Ford*: 5 officers' houses and siteworks, W. J. White & Sons, Ltd., 1, Bayford-rd., Littlehampton. *Arbroath*: 5 officers' houses and siteworks, Pelling & Cronshaw, Ltd., 17, Lindsay-st., Arbroath. *Portsmouth*: Additions to building, Howe & Bishop, Ltd., Clarendon-rd., Portsmouth. *Portsmouth*: Resurfacing roads, Allweather Mechanical Grouting Co., Ltd., 47, Victoria-st., London, S.W.1.

London (Air Ministry).—List of works contracts to value of £500 or over for week ended July 12:—*Dismantling and re-erection of fuel installation*: Y. J. Lovell & Son, Ltd., Horsham, Sussex. *Heating services*: Benham & Sons, Ltd., London, W.1.

London (M.O.W.).—Contracts placed by M.O.W. during week ended July 5:—

Glamorgan: Croyton, Cardiff, construction of R.C.O., W. E. Chivers & Sons, Ltd., Devizes, Wilts. *Kent*: The Duke of York's Military School, Dover, additions and alterations to two school houses, Messrs. C. Jenner & Son, Ltd., 5-9, Bouverie-rd. East, Folkestone, Kent. *Leicester*: Ministry of Food Cold Store, Clarkes-rd., Wigston, asphalting to main roofs, General Asphalte Co., Ltd., 56, Milk-st., Birmingham, 5. *London*: Holloway P.O. Factory, Bovay-pl., N., internal cleaning and decorations, John Kent (London), Ltd., 10, Melon-rd., Peckham, S.E.15. *London*: Post Office Savings Bank, Blythe-rd., Kensington, internal decorations, James Walker, Ltd., Brunal-rd., Old Oak Common-la., East Acton, W.3. *London*: Queen Mary's Hospital, Roehampton, internal painting, Alfred Bagnall & Sons, Ltd., 141, Uxbridge-rd., London, W.12.

London (War Dept.).—Works contracts placed by W.D. during week ended July 5th:—

Nottinghamshire: Concrete work, Gee, Walker & Slater, Ltd., Derby; Miscellaneous, Fred. Pearson & Co., Ltd., Doncaster. *Yorkshire*: Painting and decorating, Alfred Bagnall & Sons, Ltd., Shipley. *Leicestershire*: Roadwork, Penmaenmawr & Trinidad Lake Asphalt Co., Ltd., Liverpool 2. *Hampshire*: Building work, Healy & Evans, Ltd., Portsmouth.

Macclesfield.—Erection of an aged persons' meeting-hall on the Weston housing estate, for the Corporation: *Messrs. Allen & Hudson, £7,115.

Midlothian.—Plans prepared for new operating theatre and X-ray dept. at the Longmore Hospital, Newington, Salisbury-pl., South Edinburgh. Walter

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Allison & Hutchieson (A.), architects, 38, York-pl., Edinburgh:

Excavation, brick and building works, *William Black & Sons, Ltd.

Plumber and sanitary engineering and allied work, *MacKie & Simpson, Ltd.

Joinery, carpentry and allied works, *John T. B. Baillie, Ltd.

Glazing and allied works, *James Thow, Ltd., Ayr and Greenock.

Plaster, lathing, terrazzo and allied works, *Peter Walker & Son, Ltd.

Painter, decorating and allied works, *J. T. Thomson.

(Contractors all of Edinburgh except glazier.)

Mitcham.—Erection of shops and flats. Henry Darsa, L.R.I.B.A., architect, 59a, Connaught-st., Hyde Park-sq., London, W.2. Quantities by Donald A. E. Harwin, A.R.I.C.S., 19, Hanover-sq., London, W.1:—

Messrs. Spiers, Ltd.	£61,986
W. F. Blay	61,917
Tersons, Ltd.	60,409
W. W. Jenner, Ltd.	56,945
Clark, Barton, Ltd.	53,715
Batty & Smith, Ltd.	52,804
Baileys, Builders and Contractors, Ltd., New Malden	50,014
Fairweather, Ltd.	49,985

Newcastle-on-Tyne.—194 houses on section "D" of Slatyford-la. housing estate, for City Council. G. Kenyon, City A., 18, Cloth-market, Newcastle: *Cussins (Contractors), Ltd., Moor Court, Newcastle-on-Tyne, £256,946.

Northallerton.—54 houses on Valley-rd. estate, for U.D.C. Architects, Brierley, Syme & Leckenby, 13, Lendal, York: *Moody Bros., East-rd., Northallerton.

Northampton. — Houses, for B.C., at Cherry Orchard site: 56, *Direct labour, £72,109; 24, *Branson & Jones, Ltd., 36-38, Milton-st., £30,876; 5, at Tenoy-rd., *Clements Bros., Ltd., 64, St. Andrew's-st., £9,842.

Nuneaton.—Houses, for T.C.: 101 "No Fines" at Camp Hill estate, *Geo. Wimpey & Co., Ltd., London, £122,410; 10 aged persons' bungalows at Populars Farm, *Highfield Builders, Ltd., 5, Queen Victoria-rd., Coventry, £9,428; 12 houses at Heath End-rd. estate, *Selleck Nicholls, Ltd., St. Austell, Cornwall, £16,300.

North Shields.—Rebuilding of shop and offices at Albert Edward Dock, for Messrs. Merrow: *W. D. Spedding & Son, Back Albion-rd., North Shields.

Otley.—32 houses at Weston-la., for U.D.C.: *Tom Smith, Ltd., Otley.

St. Marylebone.—Erection of 48 flats on the site of Nos. 35-55, Boundary-rd., for B.C.: *J. M. Hill & Sons, Ltd., £92,007.

Salford.—4 houses at Doveleys-rd., Pendleton, and 2 at Eccles Old-rd., for T.C.: *Burns & Anderson, Ltd., Salford, £8,268 and £4,424; 48 flats at Bury-st., *Unit Construction Co., Ltd., Knutsford, £84,318.

Shardlow.—14 terraced type houses at Spondon, for R.D.C.: *A. Perkins & Sons, Ltd., Eden-rd., Chaddesden, nr. Derby, £20,641.

Smethwick.—New slipper baths at Cape Hill, for T.C.: *Frank Davis, Ltd., Birmingham, £19,450.

Sowerby Bridge. — 76 houses, for U.D.C.: *W. Parker & Son, Ltd., Watson Mill-la., Sowerby Bridge, £101,276.

Stanley.—100 "Orlit" houses, East Stanley, for U.D.C. J. R. Heslop, surveyor: *Tarslag, Ltd., Bowesfield-la., Stockton-on-Tees.

Wallsend.—Erection of 88 houses, for the Corporation: *J. H. James, Archer-st., Willington Quay, Wallsend.

Wallsend.—Erection of 56 houses at Low Willington, for T.C.: *J. Armstrong, Wallsend.

Wandsworth.—Construction of 24 flats on Estreham-rd. housing site, Streatham, for B.C.: T. Ringham & Co., Ltd., 4, The Broadway, Wimbledon, S.W.19, £46,354.

Wantage.—Erection of 40 houses and site works on the extension of the Springfield-rd. housing site at Wantage, for U.D.C.: *Gilmores, Langley, Bucks, £57,283.

West Bromwich.—3 shops and maisonettes at Yew Tree estate, for T.C.: *Direct labour, £8,531.

Whiston.—Upgrading of aged and infirm blocks at County Hospital, for Liverpool Reg. Hosp. Brd.: *J. Lucas & Sons, Ltd., Eccleston-st., Prescot, £6,958.

York.—12 houses at Cornlands-rd., for T.C. E. Firth (A.), City A., Guildhall: *F. Bilton, Ltd., Wirclomlee, Hull, £16,760.

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